

SERVICE MANUAL

(without price)

15" TFT LCD POS Terminal

QT-8000

(EX-964)

NOV. 2004



QT-8000

CASIO®

Ver.1 : AUG. 2005

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NOTE

DO NOT REMOVE OR INSERT A CF CARD WHILE THE POWER IS ON (WHILE THE POWER LED LIGHTS GREEN).

DOING SO MAY CAUSE THE DATA INSIDE THE CF CARD OR THE CF CARD ITSELF TO BE DAMAGED IN THE WORST CASE.

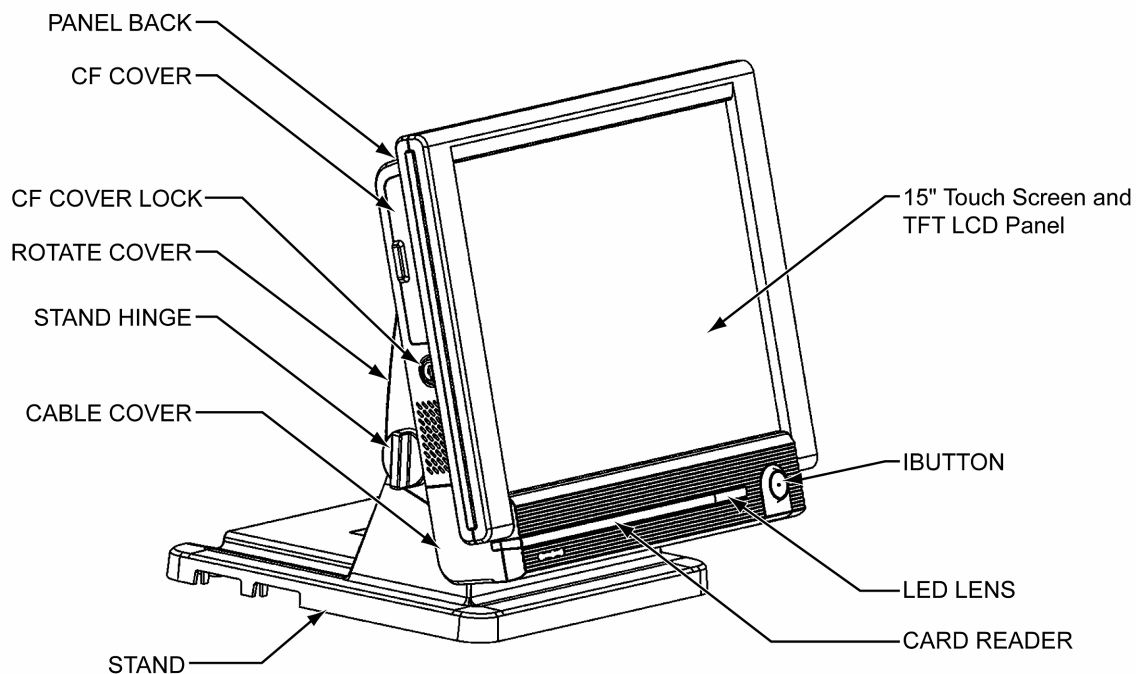
1. EXPLANATION OF PRODUCT

1-1. General Description

The QT-8000 is a PC-based POS terminal which integrates XGA 15" LCD panel, Touch screen, Ethernet, USB, COM port, parallel port, Audio, PS/2 Keyboard, mouse, etc.

The QT-8000 features desktop free standing and wall mounting for a wide variety of applications. A unique cable management device is also provided to trim the operation environment. In conformity to IPX1 standard, water-resistant system design is adopted. Designed by the PC and POS experts for the POS professionals, the QT-8000 is virtually the ultimate solution for hospitality applications.

1-2. System Overview



1-3. Major Component

1. Touch Panel:

The QT-8000 features a quick-response touch screen for keyboardless operation. The standard touch adapted in this system is 15 " analog resistive type touch screen. Its durability is 10 million touches in life.

2. LCD Panel :

To provide the best visual resolution and viewing angle, the standard display panel adapted in the QT-8000 is 15" TFT LCD Panel.

- (1) Resolution: XGA 1024(H) x 768(V)
- (2) Brightness: 250 nit
- (3) Contrast Ratio: 400: 1 (typical)
- (4) Support Colors: 262,144 colors (6-bit for R,G,B)
- (5) Titling Angle: 15 ~ 75 degrees

3. IButton:

By using the electronic key equipped with a DS1990A, the iButton magnetic probe can be used as the access control to the POS terminal.

4. LED LENS:

LED lens consist of one Power LED indicator with green color and one HDD LED indicator with orange color.

5. Card Reader

The card reader consists of a magnetic stripe which is used to read the credit card. It can support ISO track 1&2 standard or ISO track 2 & JISII standard.

6. Panel Back:

The plastic panel back is used to cover the LCD panel with the inner sheet metal attached to it.

7. CF Cover:

Inside the CF cover, user can find one Compact flash socket supporting Type I / II, software power switch and LCD brightness control.

8. CF Cover Lock:

The CF cover lock is used to hold the items inside the CF cover.

9. Rotate Cover:

The rotate cover is made of a mixture of PC and ABS material and it is used to prettify the back of the LCD panel by covering the hangers.

10. Stand Hinge:

The hinge is located at both right and left sides of the LCD panel. User can adjust the display angle of the LCD panel up and down by turning the hinge.

11. Cable Management Shroud:

The shroud is made of a mixture of PC and ABS material. It is used to hide the cables coming down from the bottom side of the chassis and to make the operation environment look trimmed.

12. Stand:

The stand is made up by an aluminum metal piece. It is used to ensure the stability when a certain touch pressure is exerted on the touchscreen.

1-4. Specifications

Core System (Motherboard)

• CPU:	Intel® Celeron™ 1.2GHz, Socket 370 processor with FC-PGA2 package type
• System Chipset:	VIA CLE266 (VT8623) North Bridge and VT8235 South Bridge
• BIOS:	Phoenix Award PnP BIOS, 4M bits Flash ROM with VGA BIOS
• System Memory:	1x184-pin DDR SDRAM socket supports up to 1GB.
• L2 Cache:	Integrated in CPU
• Real Time Clock:	Accuracy is within +/- 60sec monthly at 25°C

I/O system

• Front side	1 x Power LED (Green Color) 1 x HDD LED (Orange Color) 1 x MSR 1 x iButton (Magnetic Probe)
• Rear side	1 x DC19V input Jack 1 x DC Power Switch 1 x RJ45 with LED, support 10/100 Mbps Ethernet LAN 4 x USB2.0 ports 4 x COM port with +5V/+12V voltage selection at 9 th pin 1 x Parallel port 1 x VGA port 1 x Line-Out 1 x MIC 1 x mini-Din 6-pin for Keyboard 1 x mini-Din 6-pin for PS2 Mouse
• Right Side	1 x Compact Flash Card Socket 1 x Variant Resistor for LCD Brightness Control 1 x Power Button

Built-in Peripherals

- | |
|--|
| • 2.5" Hard disk (designed 30GB) |
| • 15" 5-wire resistive type touch screen via USB interface |
| • MSR Card Reader (Optional) |

System Specification

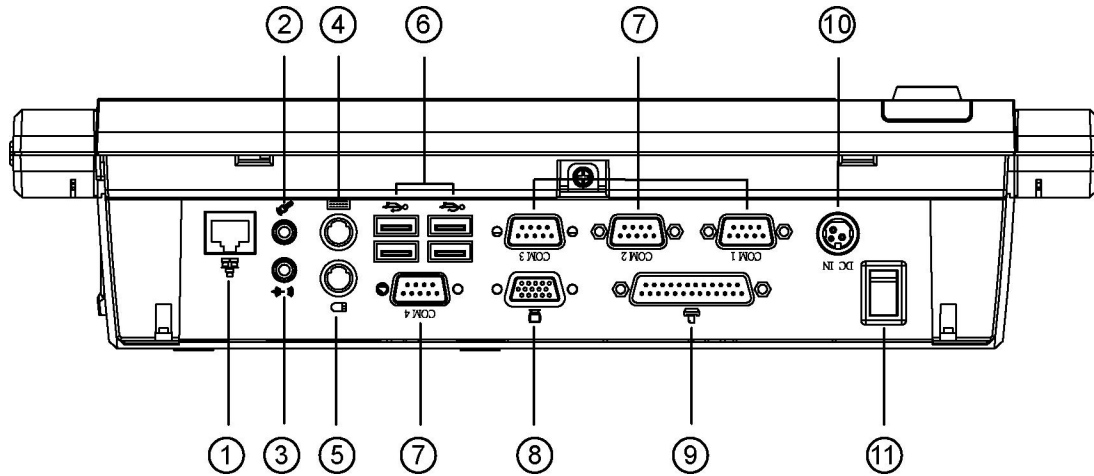
- | |
|---|
| • 15" TFT LCD display, resolution 1024 x 768 |
| • One Compact flash socket with Type I / II |
| • 120W power supply |
| • Dimension (main body size): 362 (W)x 345(D) x 361 (H) |
| • System Weight: 11.7 Kg (including packing material) |
| • Operating Temperature: 0°C ~ 35°C under humidity at 10 ~ 90%RH |
| • Storage Temperature: -25°C ~ 65°C under humidity at 10 ~ 95%RH |
| • Regulation:
(1) EMC CLASS-A: CE, FCC, VCCI, C-Tick
(2) Safety: PSE, UL, cUL, CB |

Note: 1) Specifications subject to change without notice.
2) The mouse and the P/C keyboard are designed for the engineers who are trained to use them for installation of the POS terminal and are not recommended to use at customer site as regular POS function in store hours. It may cause fail of the radiation regulation (ie. FCC or CE).

1-5. I/O Outlets

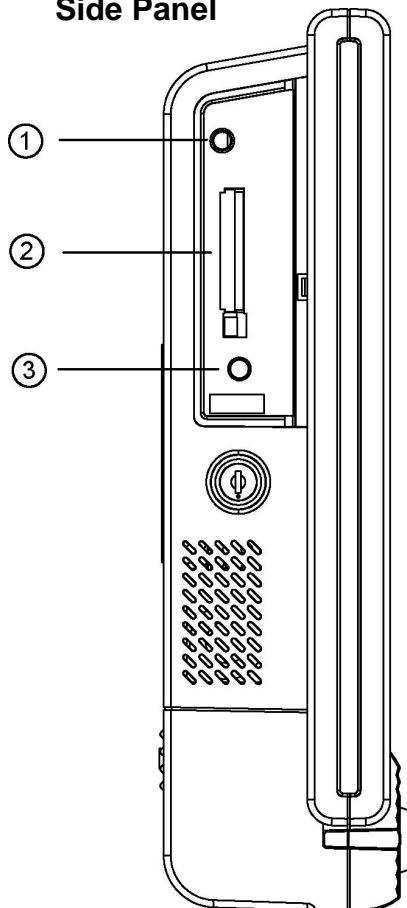
The following diagram shows the I/O arrangement.

Bottom Panel



- | | | |
|---------------------------|------------------|------------------|
| 1) Ethernet 10/100 Base-T | 5) Mouse | 9) Parallel port |
| 2) MIC | 6) 4 x USB 2.0 | 10) DC-In jack |
| 3) Audio Out | 7) 4 x COM ports | 11) Power switch |
| 4) Keyboard | 8) Second VGA | |

Side Panel



- 1) Brightness
- 2) CF Card
- 3) Power switch

1-6. Option

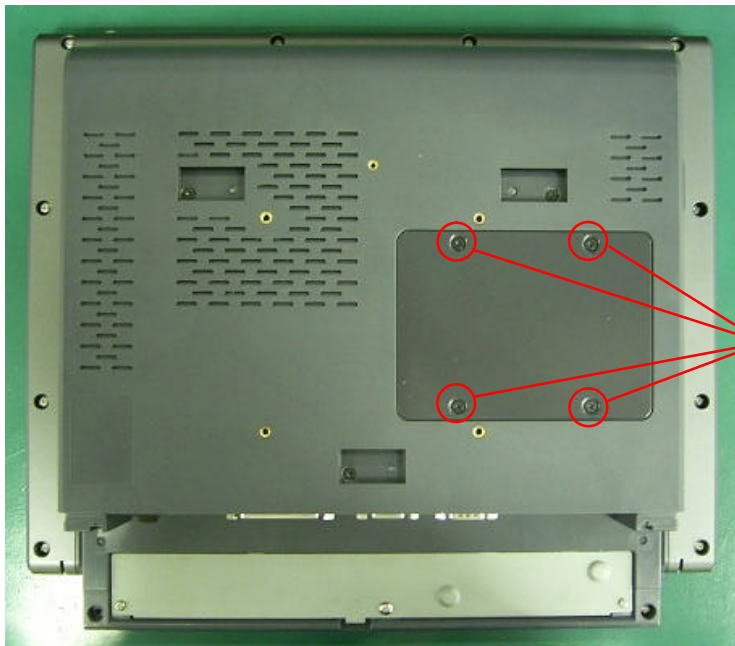
DEVICE NAME	MODEL	NOTE
• Display set for customer	QT-6060D	
• Display cable for customer (for mounting to the base)	QT-6061CB	
• Display 5-meter cable for customer	QT-6062CB	
• Remote printer	UP-360	
• Printer cable	PRT-CB-8A	(Length 3m)
• Printer cable	PRT-CB-8B	(Length 5m)
• Cash Tray	CTR-53	
• Tray Lid	SLD-9	
• MCR	QT-6046MCR	

Drawer

DRAWER NAME	Specification	NOTE
• DL-3401 (L type)	D-22BH-A55SM-17	

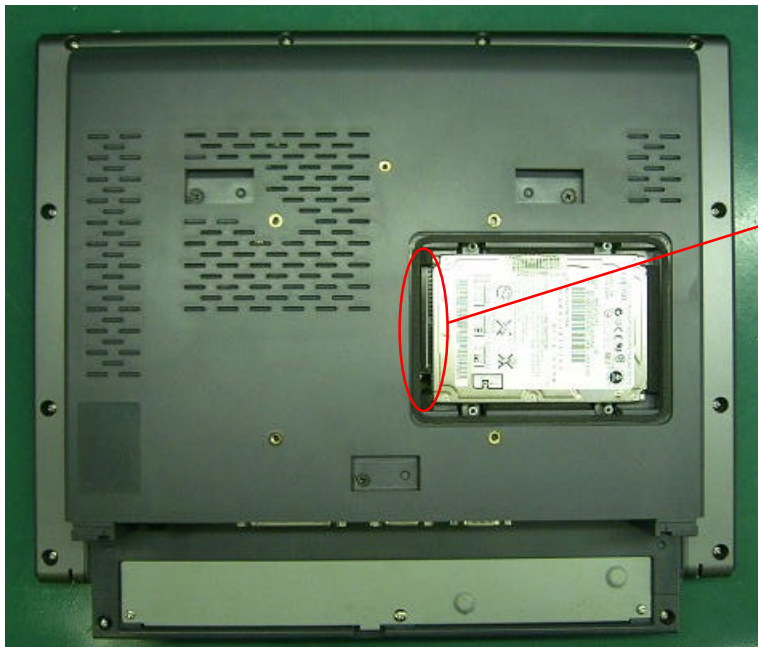
2. DISASSEMBLY

STEP 1: Remove HDD Cover.



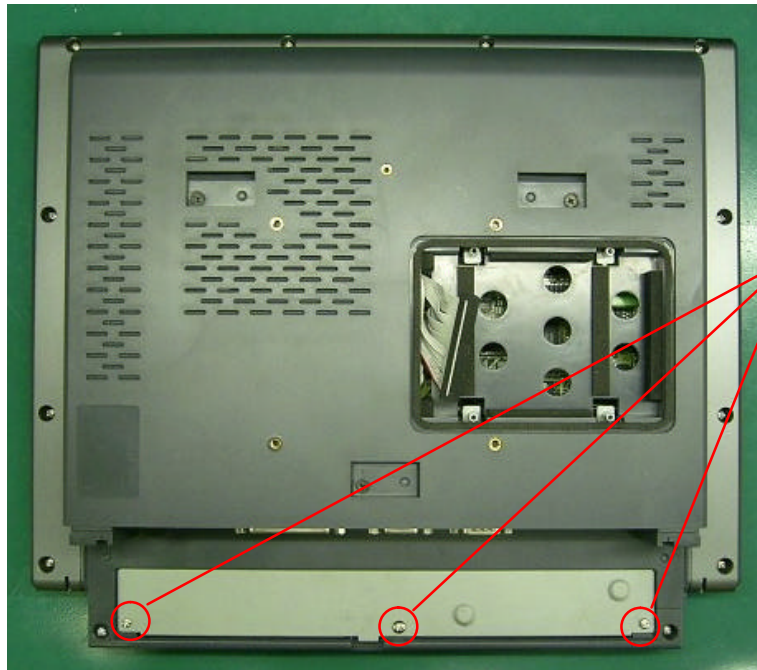
Release the 4 screws.

STEP 2: Remove HDD.



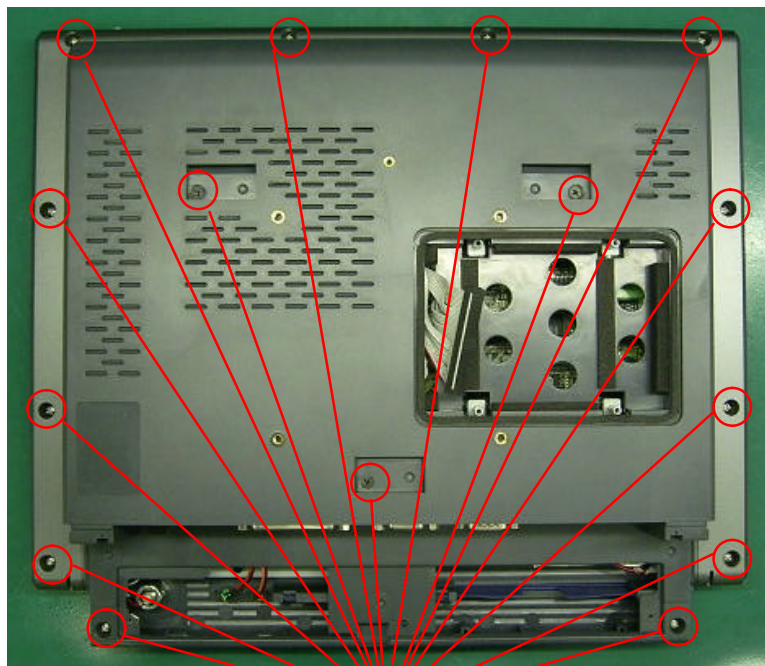
Pull out the HDD cable.

STEP 3: Remove Card Reader Cover.



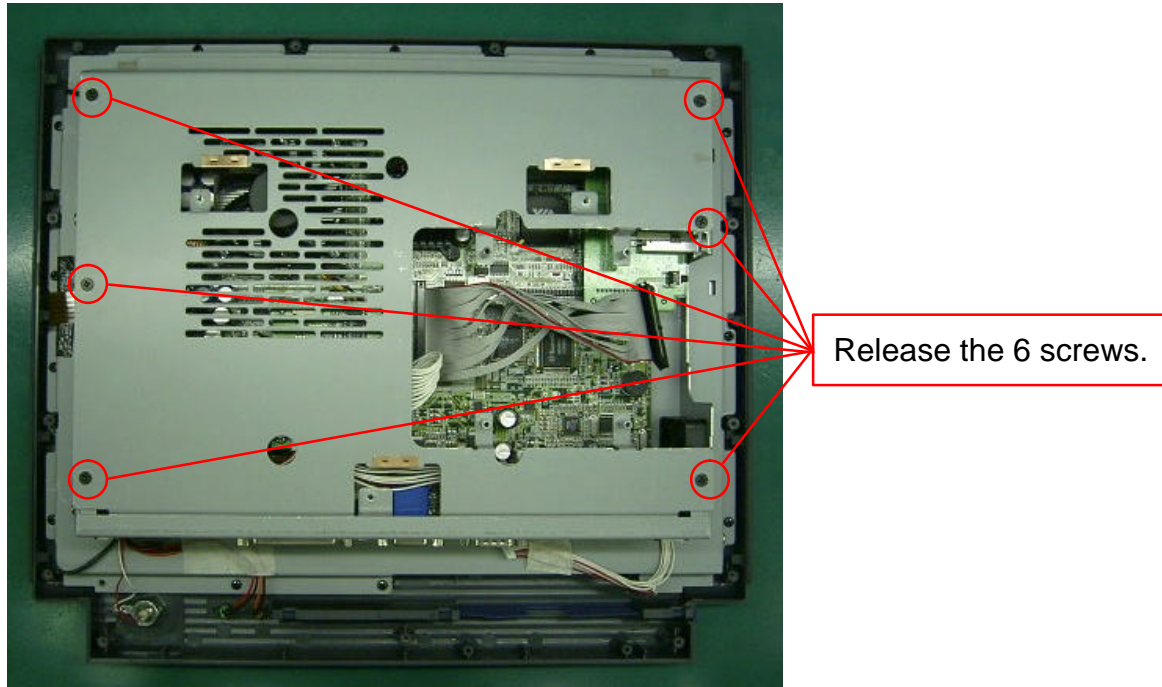
Release the 3 screws.

STEP 4: Remove Back Cover.

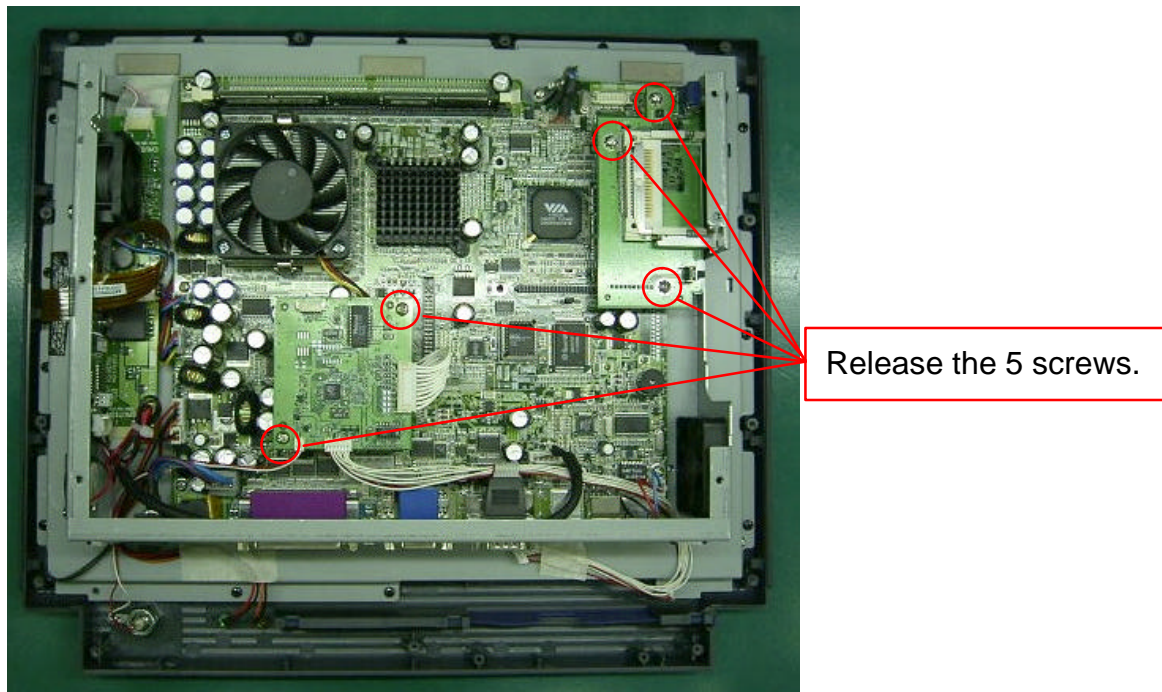


Release the 15 screws.

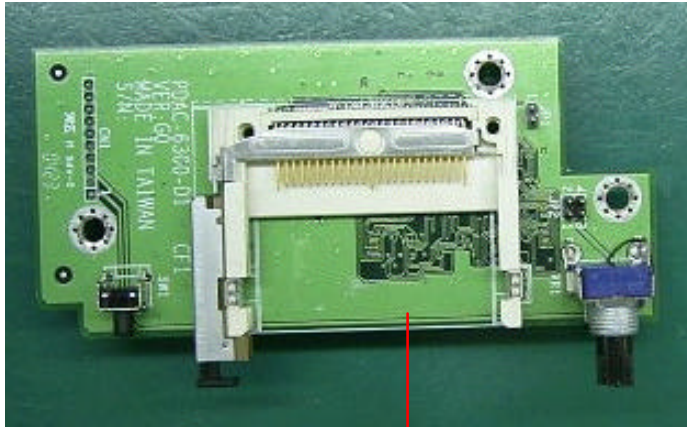
STEP 5: Remove Chassis_T.



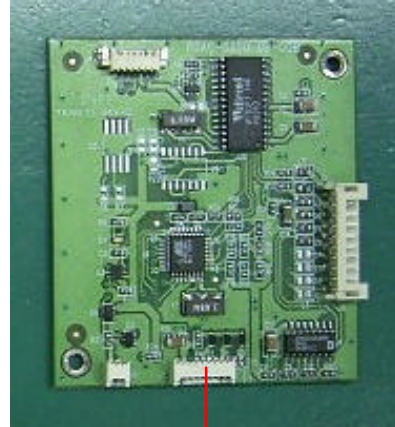
STEP 6: Remove CF Board, MSR Board.



STEP 7: CF Board, MSR Board.



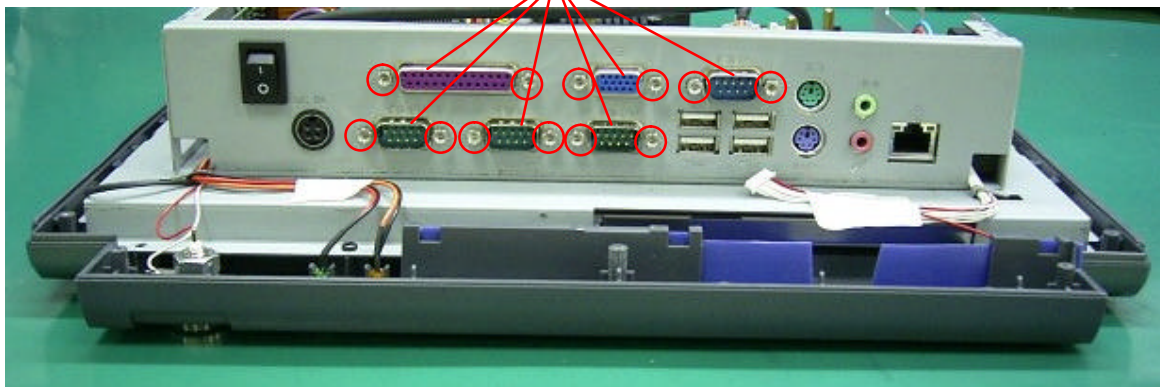
CF Board



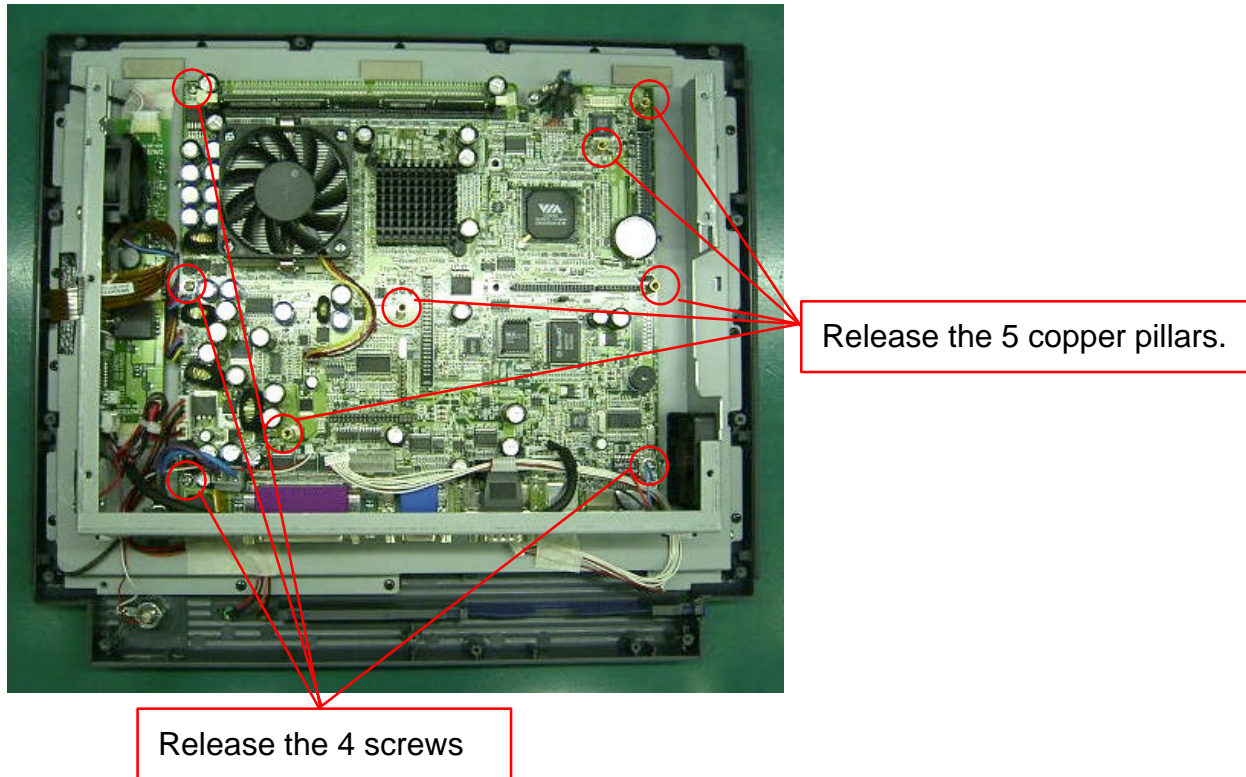
MSR Board

STEP 8: Release the I/O connectors' copper pillars.

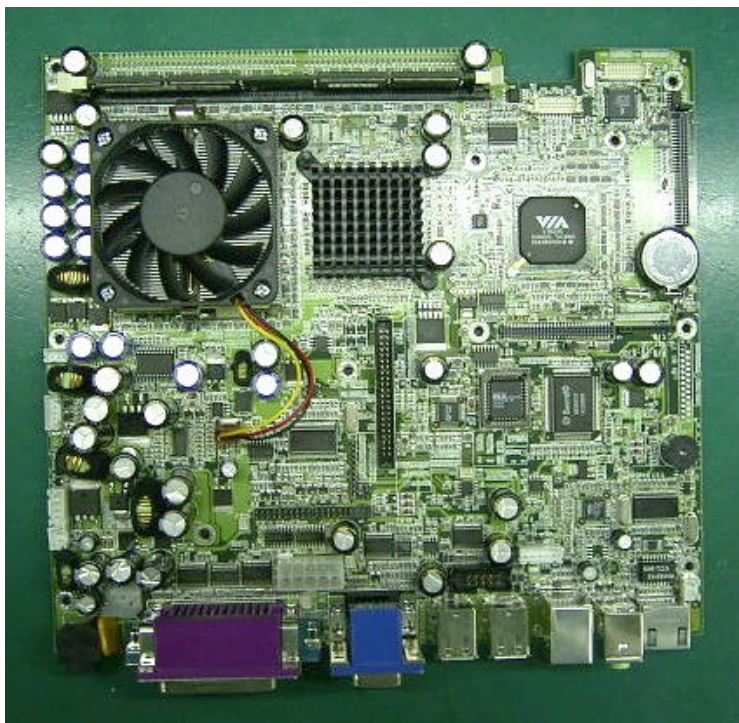
Release the 12 copper pillars.



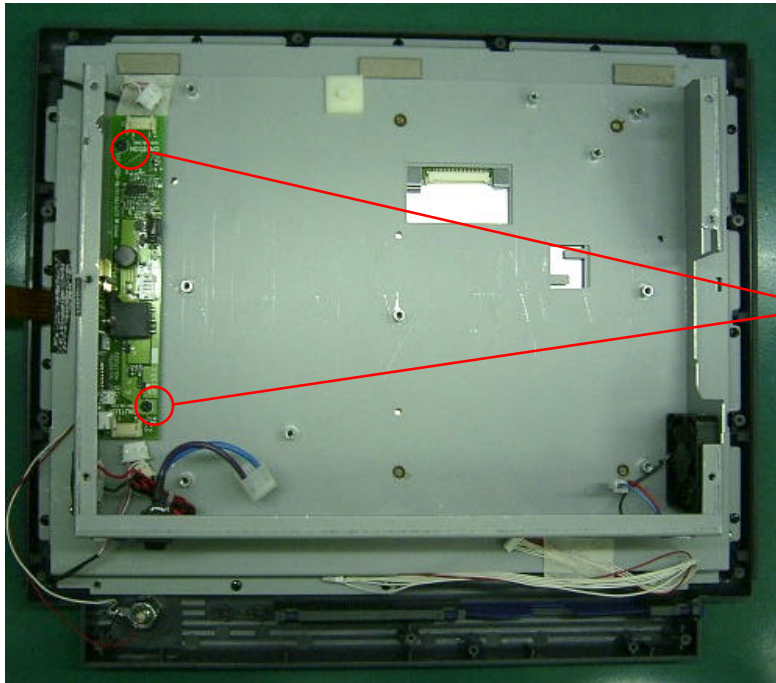
STEP 9: Remove Main Board.



STEP 10: Main Board.



STEP 11: Remove Inverter Board.

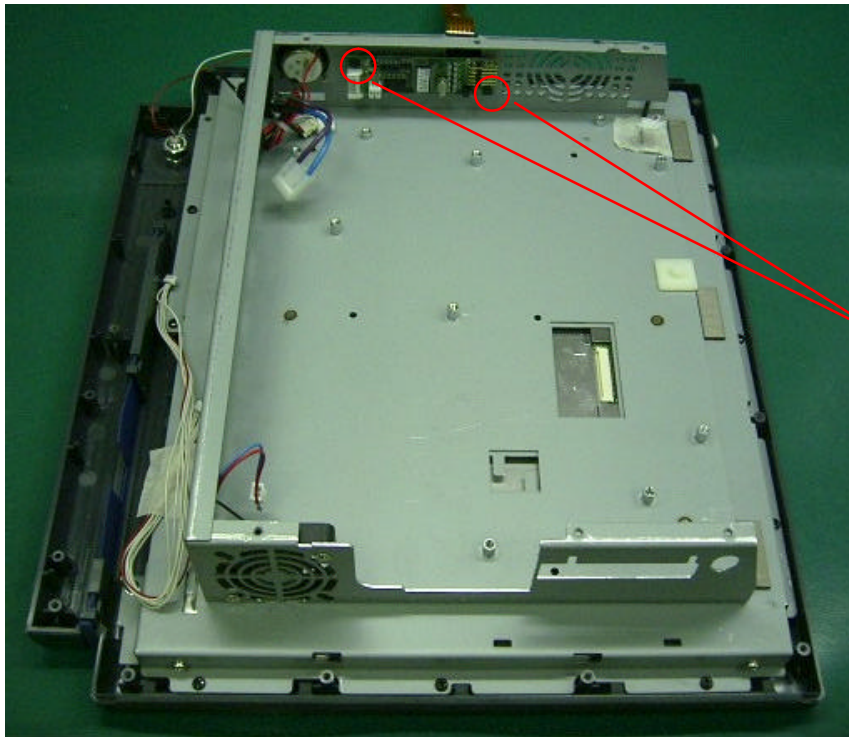


Release the 2 screws.

STEP 12: Inverter Board.

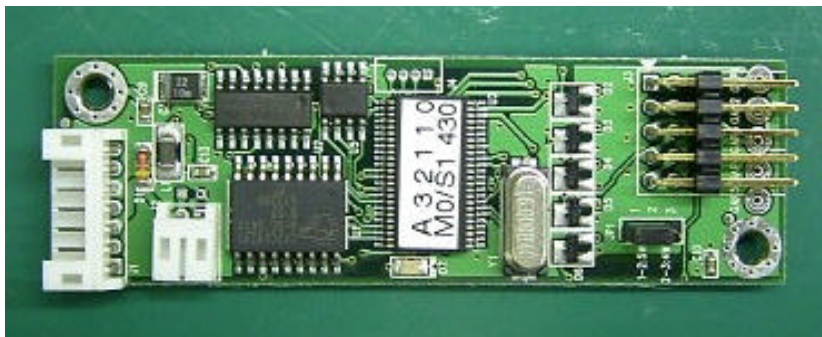


STEP 13: Remove the Control Board of Touch Panel.

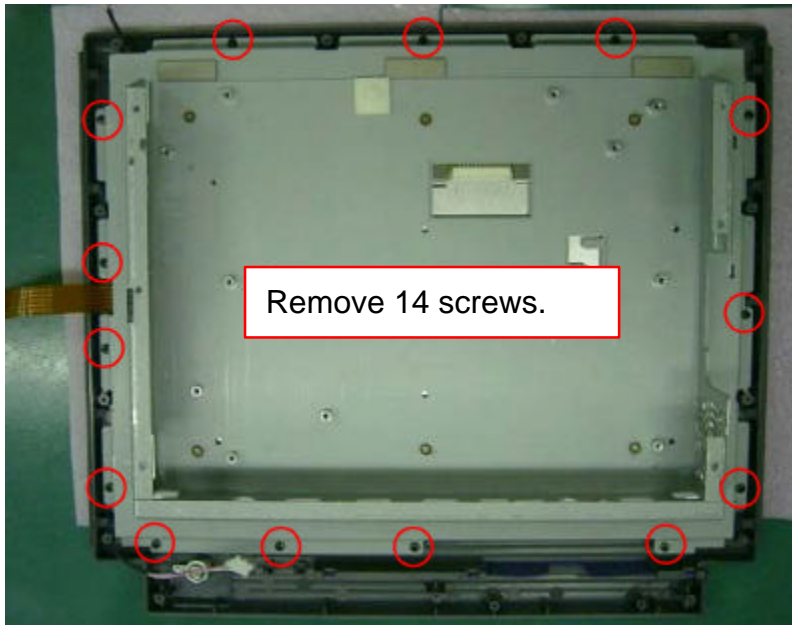


Release the 2 screws.

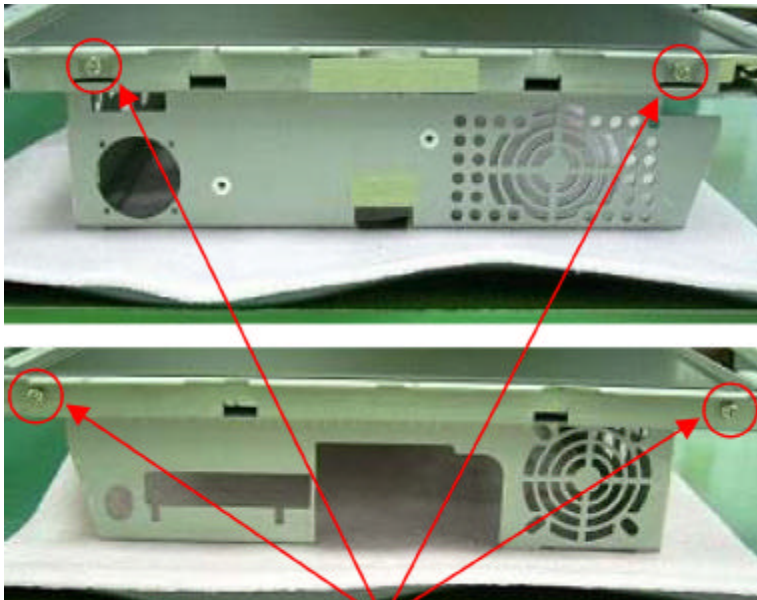
STEP 14: Control Board of Touch Panel.



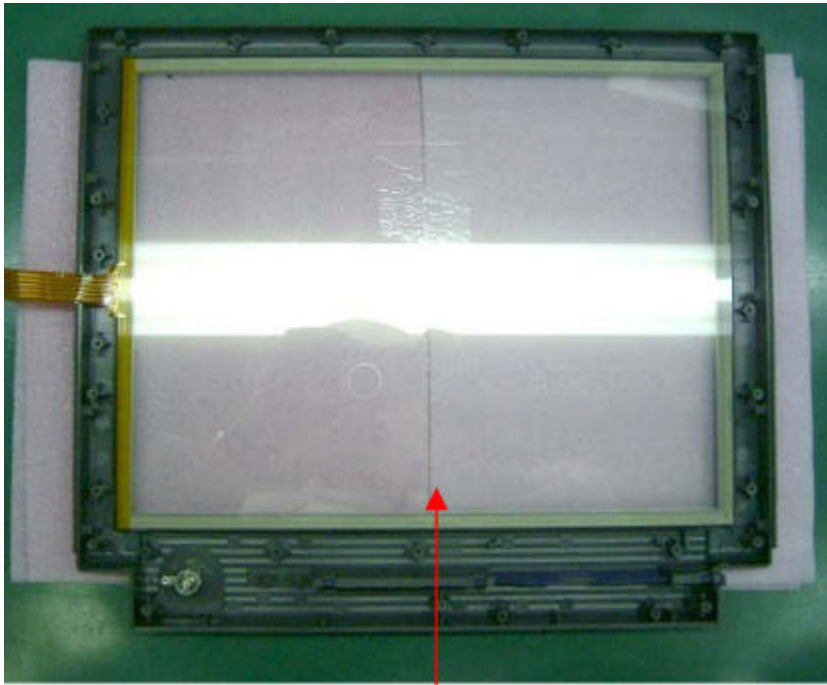
STEP 15: Remove Base.



STEP 16: Remove LCD Panel.



STEP 17: Remove Touch Panel.



Remove Touch Panel.

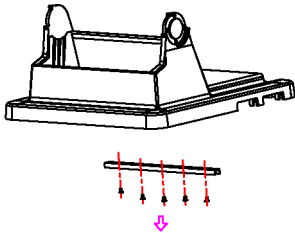
3. INSTALLATION

Unpacking

The QT-8000 along with its accessories are packed in carton box. After unpacking the carton, place the system on a raised surface and carefully inspect the system for any damage that might have occurred during shipment. If there are damaged or missing parts, contact your dealer immediately.

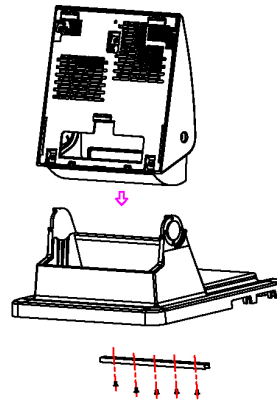
Hardware system installation procedure:

1.



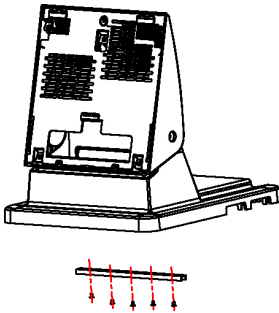
Remove the STD CHASSIS from Stand

2.



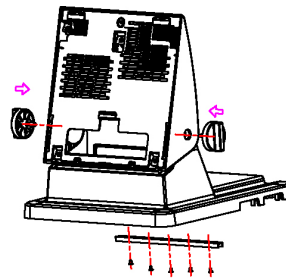
Place the ROTATE on the Stand

3.



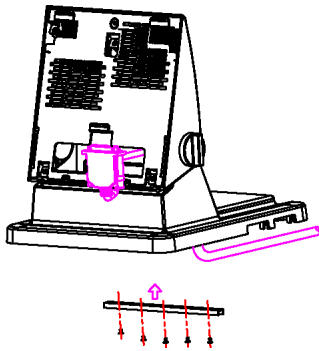
ROTATE on the Stand

4.



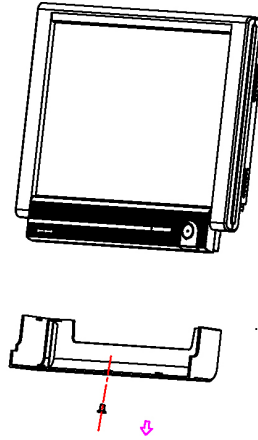
Lock STAND HINGE on both sides

5.



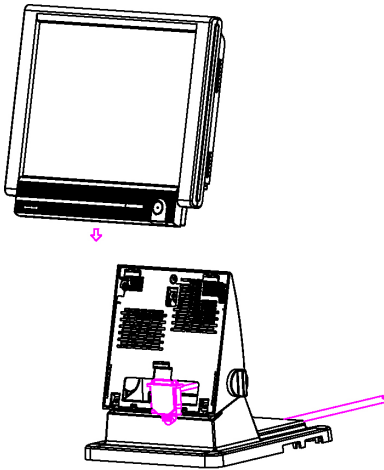
Cable pass through Stand and lock STD CHASSIS by screws

6.



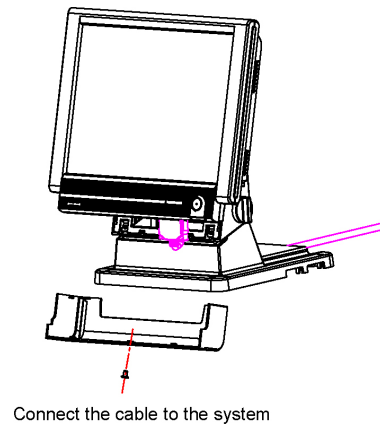
Remove Cable Cover

7.



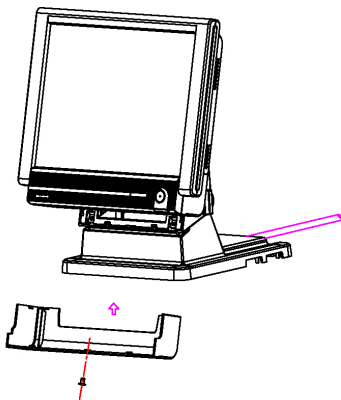
Place the system on the Rotate

8.



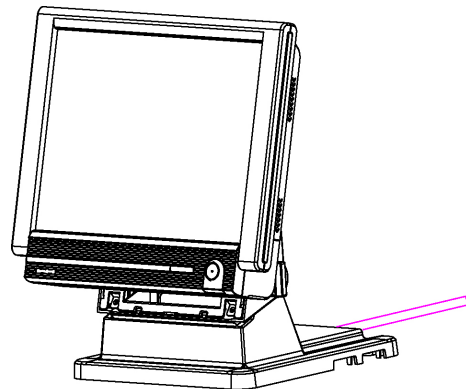
Connect the cable to the system

9.



Close the Cable Cover and lock by screws

10.



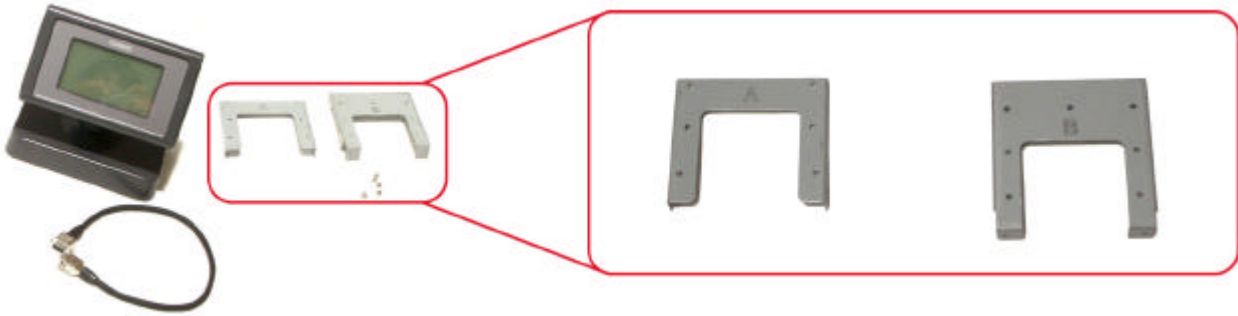
Installation Complete

NOTES:

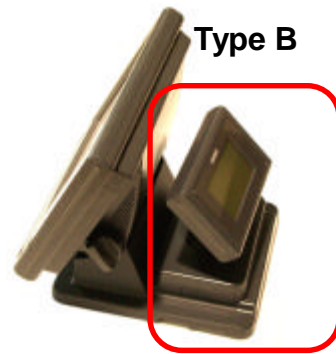
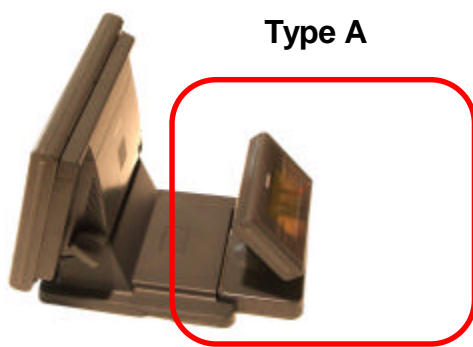
1. The QT-8000 do not equip any operating system. An operating system must be loaded first before installing any software into the QT-8000.
2. Be sure to ground yourself to keep from any static charge when you install the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to the static electric charge.
3. Disconnect the power cord from the QT-8000 before any installation. Make sure both the system and the external devices are turned off and the QT-8000 is properly grounded. The sudden surge of power could ruin any sensitive components.
4. The brightness of the LCD panel display will decrease with use. However, hours of use will vary depending on the application environment.
5. Avoid using sharp objects to operate the touch-screen. Scratches on the touch-screen may cause malfunction or non-function to the touch-screen.

4. OPTION INSTALLATION

4-1. Installing the display set for customer (QT-6060D)

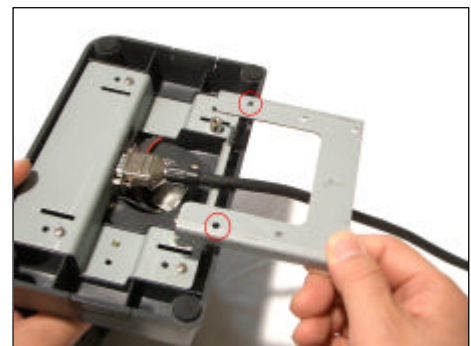
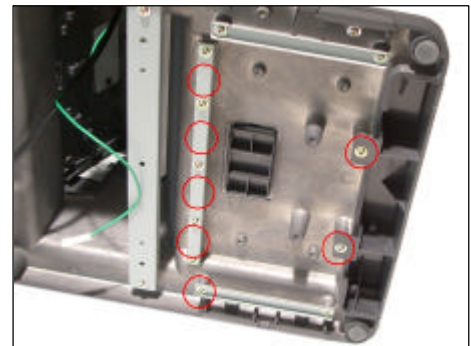


There are two types for the display set for customer (QT-6060D).

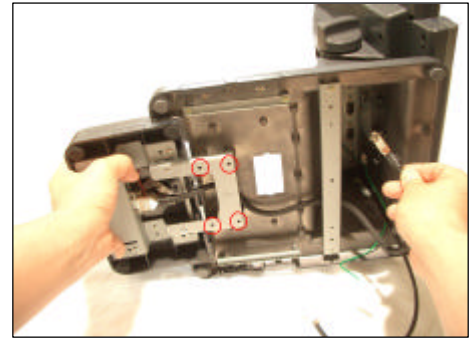


To install Type A

1. Remove two screws at the bottom and then the cover.
2. Remove five screws at the bottom and then the metal bracket.
3. Connect the cable to QT-6060D.
4. Fix the metal bracket for type A with screws.

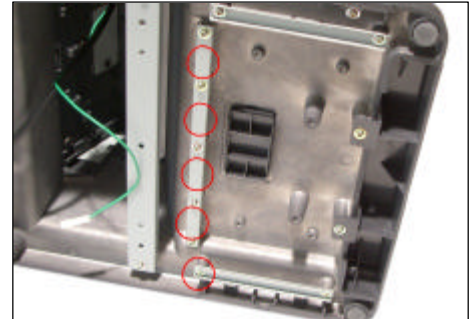


5. Fix QT-6060D to the main unit with four screws.
6. Connect the cable to QT-8000 (COM4).
7. Fix the metal bracket which was removed in the above step 2.

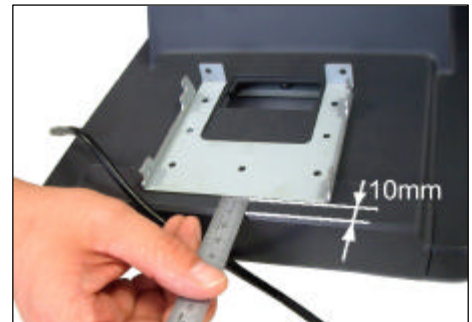


To install Type B

1. Remove five screws at the bottom and then the metal bracket.



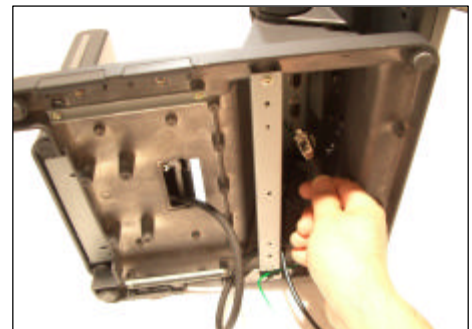
2. Fix the metal bracket for type B to the main unit with double-sided tape.
Position to be fixed: Align the metal bracket in the center of the main unit and fix it where it is 1.0cm from the edge.



3. Connect the cable to QT-6060D.



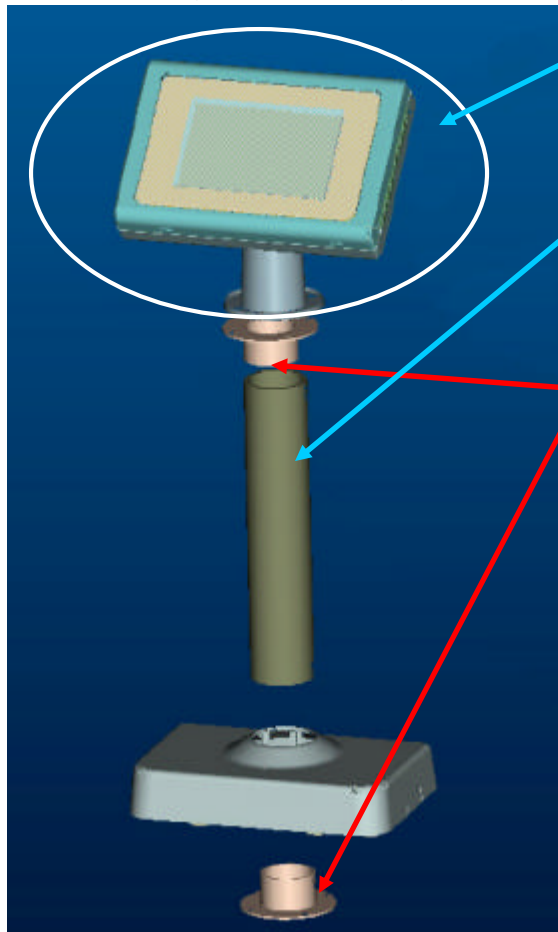
4. Fix the main unit to the metal bracket for type B.
5. Connect the cable to QT-8000 (COM4).
6. Fix the metal bracket which was removed in the above step 1.



4-2. Installing the LONG POLE

It is possible to attach the long pole in QT-6060D.

Please arrange the following parts at your side when you need them.



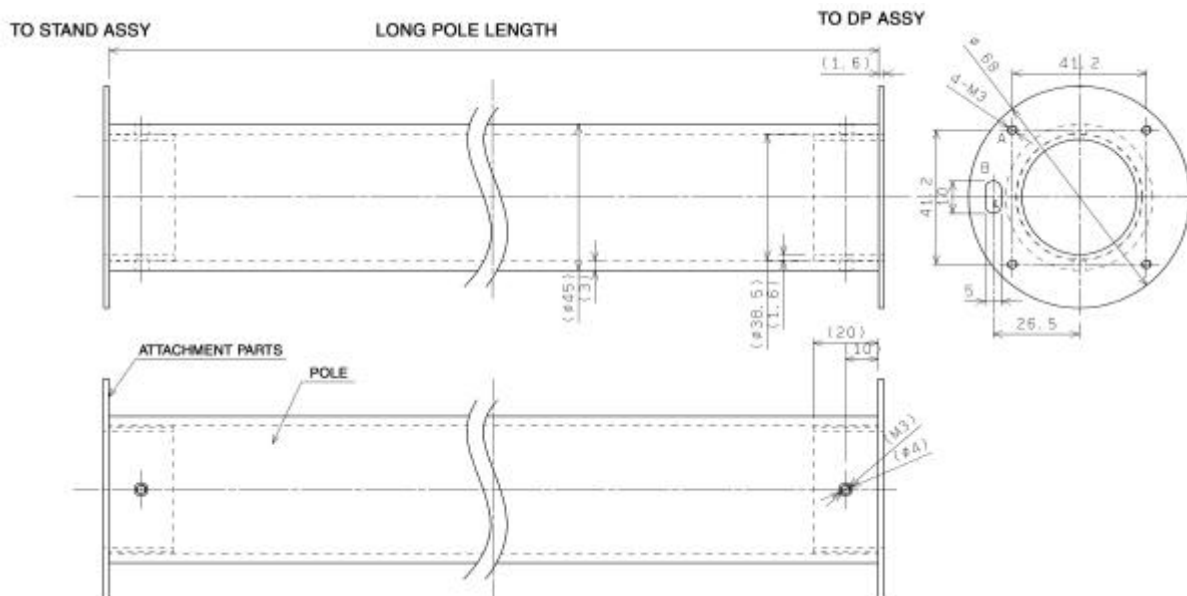
Status in 4).

Attachment parts (arranged by dealers)

LONG-POLE (arranged by dealers)

- 1) Turn the QT-6060D over.
- 2) Remove four pan-head screws which are fixed in STD-POLE.
(This separates DP/STAND ASSY.)
- 3) Remove four tapping screws to remove the chassis from the STAND ASSY.
- 4) Fix STD-POLE and ROTARY-SHAFT to DP-ASSY with four pan-head screws.
- 5) Fix the part arranged by dealers.

Reference Drawing



5. SYSTEM INSTALLATION

This chapter describes the installation of the overall system of the QT-8000. See Chapter 4 for more details on the motherboard in detail.

The QT-8000 has a Celeron/Pentium III based motherboard. It already builds in an Intel Celeron CPU, 256MB of DRAM and a 2.5" HDD. There are all standard and the system is ready to play. Variety of the I/O ports located at the bottom side and the right side of the chassis are available for customers to connect external peripheral devices, such as a monitor, serial devices, parallel printer.....etc. However, the interface specification of the peripherals are vary depend on the manufactures and may not applicable to the QT-8000 system. Please confirm list of the peripheral devices which are test by Casio as the QT-8000 system before you choose the peripherals.

NOTE: Since all specification and quality of the system are assured by Casio as the QT-8000 system, any local modification of the CPU, DRAM, HDD, jumper setting on the motherboard or system components by customer will not be applicable for Casio's guarantee or warranty unless modification are assured or instructed by Casio.

5-1. CPU

The QT-8000 system already builds in a designated CPU in the socked on the motherboard. QT-8000: Intel Celeron 1.2GHz on the motherboard EX-964.

To maintain the CPU, follow the instructions below.

1. Pull the lever sideway away from the socket. Then, raise the lever up to a 90-degree angle.
2. Locate pin 1 at the corner of the CPU socket and align the CPU's pin 1. Then place the CPU in the socket. Check the notch on the corner of the CPU and the socket are properly aligned.
3. Press, the lever down to complete the installation. The CPU should always have a Heat Sink with thermal sheet and a cooling fan attached to prevent overheating.
4. When a CPU is installed, the jumper settings on the motherboard are properly installed as factory default for the QT-8000 (see Chapter 4 or 5 for CPU jumper settings).

5-2. DRAM

The QT-8000 provides 1 x 184-pin DIMM sockets and 256MB of DDR SDRAM as standard. To install the memory module, follow the instructions below and check the list of DRAM memories tested as QT-8000.

1. The DIMM slots have 2 Notch Keys, so the DIMM memory module can fit in one direction.
2. Insert the DIMM memory module vertically into DIMM slot. Then push in.
3. The plastic clip at the side of the DIMM slot will automatically close.

The system is able to detect the new memory size automatically and it is not necessary to change the system configuration after installation.

5-3. HDD

The standard QT-8000 already builds in a 2.5" hard disk drive. To maintain the HDD, follow the installation instructions below and check the list of HDD tested as the QT-8000.

1. Take out the screws, the IDE cable and remove the HDD.
2. Reinstall the new HDD on the bracket. The four rubber stands act as cushions to lessen the vibration, which usually causes damage to a mechanical device like a HDD.
3. Connect the IDE cable to the HDD. Match pin 1 of the HDD and the pin 1 of the cable.

5-4. Serial Ports

QT-8000 has four onboard serial ports. 4 x Dsub-9pin connectors at rear side, and each serial port is with +5V/+12V voltage selection on pin 9 by jumper. All serial ports are D-SUB 9-pin connectors.

5-5. Parallel Port

The printer interface is a 25-pin D-SUB connector located on the rear side. To connect any parallel device just plug in the device connector to the 25pin D-SUB. There are varieties of parallel port peripherals in the market and interface specification vary depending on the peripherals. The peripherals which have been confirmed with the QT-8000 terminals are listed in the Appendix and others may not be supported. Please confirm connectivity of each peripherals before install to the customer site.

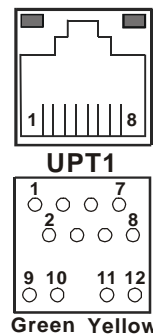
5-6. VGA

The QT-8000 has an analog RGB interface connector installed on the rear side. It is able to connect to an expansion CRT monitor, and the system can display on both the LCD display and the CRT individually or simultaneously. However, as the LCD display adapted is of the resolution of 1024 x 768, therefore, to support a CRT monitor simultaneously, the CRT's VGA resolution has to be set to 1024 x 768, too. It can also support CRT maximum resolution of up to 1600 x 1200 with 8bit on Dual-Display Mode colors. Also, an automatic horizontal frequency detective type CRT is only approved.

5-7 Ethernet

The QT-8000 provide a high performance Ethernet (RJ-45) interface. For network connection, just plug in one end of cable of a 10/100-Base-T hub to the standard Ethernet phone jack. The pin assignment of the RJ-45 is listed below.

PIN	ASSIGNMENT
1	TX+
2	TX-
3	RX+
4	ISOLATED GND
5	ISOLATED GND
6	RX-
7	ISOLATED GND
8	ISOLATED GND
9	LED – SP LED
10	PULL HI
11	LED – LI LED
12	LED – ACT LED



- The green LED detect power link, and the Yellow LED is used to detect data active transfer signal.

5-8. Keyboard

The QT-8000 provides a standard PS/2 keyboard connector located at the rear side. If the user would like to use AT keyboard interface, a conversion cable is also provided to make this connection.

5-9. PS/2 Mouse

The QT-8000 has one PS/2 Mouse connector located at the rear side. A simple plug-in will make the connection.

5-10. System O/S and Software Installation

The QT-8000 is not equipped with any operating system. It builds in a 2.5" HDD as memory storage device. As both devices are built in the system chassis, to load Win98/Win98SE or Win2000 O/S or application software into the system, an external device is needed to act as a bridge. There are three major ways to load software into the system.

- 1. Use Ethernet:** After install the O/S and necessary network utilities, download application software from the network.
- 2. Use External CD-ROM/HDD:** To use an external CD-ROM or HDD for software installation, an optional P-IDE device is needed. The P-IDE device is a converter to convert the parallel port to the IDE interface.

5-11. Award BIOS Setup

Starting Award BIOS Setup

As POST executes, the following appears

Hit if you want to run SETUP

Press to run Award BIOS Setup.

5-11-1. Award BIOS Setup Main Menu

When you enter the Award BIOS Setup Utility, the main menu will appear on the screen as follows. Use the arrow keys to move among the items and press <Enter> to accept and enter into the sub-menu.

< Screen shows all default setting >

Phoenix - AwardBIOS CMOS Setup Utility

<ul style="list-style-type: none">▶Standard CMOS Features▶Advanced BIOS Features▶Advanced Chipset Features▶Integrated Peripherals▶Power Management Setup▶PnP/PCI Configurations▶Frequency/Voltage Control	<ul style="list-style-type: none">Load Fail-Safe DefaultsLoad Optimized DefaultsSet Supervisor PasswordSet User PasswordSave & Exit SetupExit Without Saving
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type	

5-11-2. Setup

The Award BIOS Setup options described in this section are selected by choosing the appropriate high-level icon from the Award BIOS Setup main menu selection screen.

Default setting for the QT-8000 is described in < > next to each option. (i.e. <AUTO>)

5-11-2-1. Standard CMOS Setup

< Screen shows all default setting >

Phoenix - AwardBIOS CMOS Setup Utility Standard CMOS Features

Date (mm:dd:yy)	Mon , Jul 5 2004	Item Help
Time (hh:mm:ss)	20 : 51 : 43	
► IDE Primary Master	[IC25N020ATMR04-0]	Menu Level ► Change the day, month, year and century
► IDE Primary Slave	[NEC CD-ROM DRIVE:282]	
► IDE Secondary Master	[None]	
► IDE Secondary Slave	[None]	
Video	[EGA/VGA]	
Halt On	[All, But Keyboard]	
Base Memory	640K	
Extended Memory	490496K	
Total Memory	491520K	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Date:

< Month >, < Date > and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week-day will skip automatically.

Time:

< Hour >, < Minute >, and < Second >. Use 24 hour clock format, i.e., for PM numbers, add 12 to the hour. For example: 4: 30 P.M. You should enter the time as 16:30:00.

IDE Primary Master / Slave:**IDE Secondary Master / Slave:**

The BIOS can automatically detect the specifications and optimal operating mode of almost all IDE hard drives. When you select type AUTO for a hard drive, the BIOS detects its specifications during POST, every time system boots.

If you do not want to select drive type AUTO, other methods of selecting drive type are available:

1. Match the specifications of your installed IDE hard drive(s) with the preprogrammed values for hard drive types 1 through 45.
2. Select USER and enter values into each drive parameter field.
3. Use the IDE HDD AUTO DETECTION function in Setup.

Here is a brief explanation of drive specifications:

Type: The BIOS contains a table of pre-defined drive types. Each defined drive type has a specified number of cylinders, number of heads, write precompensation factor, landing zone, and number of sectors. Drives whose specifications do not accommodate any predefined type are classified as type USER.

- Size: Disk drive capacity (approximate). Note that this size is usually greater than the size of a formatted disk given by a disk-checking program.
- Cyls: number of cylinders.
- Head: number of heads.
- Precomp: write precompensation cylinders.
- Landz: landing zone.
- Sector: number of sectors.
- Mode: Auto, Normal, Large or LBA.

Auto: The BIOS automatically determines the optimal mode.

- Normal: Maximum number of cylinders, heads, sectors supported are 1024, 16 and 63.
- Large: For drives that do not support LBA and have more than 1024 cylinders.
- LBA (Logical Block Addressing): During drive accesses, the IDE controller transforms the data address described by sector, head and cylinder number into a physical block address, significantly improving data transfer rates. For drives greater than 1024 cylinders.

VIDEO:

This category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup. Available Options are as follows:

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

HALT ON:

This category allows user to choose whether the computer will stop if an error is detected during power up. Available options are "All errors", "No errors", "All, But keyboard", "All, But Diskette", and "All But Disk/Key".

BASE MEMORY:

Displays the amount of conventional memory detected during boot up.

EXTENDED MEMORY:

Displays the amount of extended memory detected during boot up.

TOTAL MEMORY:

Displays the total memory available in the system.

5-11-2-2. BIOS Features Setup

< Screen shows all default setting >

Phoenix - AwardBIOS CMOS Setup Utility Advanced BIOS Features

CPU Internal Cache	[Enabled]	Item Help
External Cache	[Enabled]	Menu Level ▶ Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep
CPU L2 Cache ECC Checking	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[HDD-0]	
Second Boot Device	[Disabled]	
Third Boot Device	[Disabled]	
Boot Other Device	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typematic Rate Setting	[Disabled]	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	[Setup]	
OS Select for DRAM > 64MB	[Non-OS2]	
Video BIOS Shadow	[Enabled]	
Small Logo (EPA) Show	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help		
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

CPU INTERNAL CACHE/EXTERNAL CACHE :

These two categories speed up memory access.

However, it depends on CPU/chipset design.

CPU L2 CACHE ECC CHECKING :

This item allows you to enable or disable CPU L2 Cache ECC checking.

QUICK POWER ON SELF-TEST:

This item allows you to speed up Power On Self Test (POST) after power-up the computer. When enabled, the BIOS will shorten or skip some check items during POST.

FIRST/SECOND/THIRD/OTHER BOOT DEVICE:

The BIOS attempt to load the operating system from the devices in the sequence selected in these items.

BOOT UP NUMLOCK STATUS:

Select power on state for NumLock.

GATE A20 OPTION:

This entry allows you to select how the gate A20 is handled. When Normal was set, a pin in the keyboard controller controls Gate A20. And when Fast was set, the chipset controls Gate A20.

TYPEMATIC RATE SETTING:

Enable this item if you wish to be able to configure the characteristics of your keyboard. Typematic refers to the way in which characters are entered repeatedly if a key is held down. For example, if you press and hold down the "A" key, the letter "a" will repeatedly appear on your screen on your screen until you release the key. When enabled, the typematic rate and typematic delay can be selected.

TYPEMATIC RATE (CHARS/SEC):

This item sets the number of times a second to repeat a key stroke when you hold the key down.

TYPEMATIC DELAY (MSEC):

The item sets the delay time after the key is held down before it begins to repeat the keystroke.

SECURITY OPTION:

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

- To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

VIDEO BIOS SHADOW :

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

OS SELECT FOR DRAM >64MB :

Select the operating system that is running with greater than 64MB or RAM on the system. You may choose OS2 or Non-OS2.

5-11-2-3. Chipset Features Setup

< Screen shows all default setting >

Phoenix – AwardBIOS CMOS Setup Utility Advanced Chipset Features

▶ DRAM Clock/Drive Control	[Press Enter]	Item Help
▶ AGP & P2P Bridge Control	[Press Enter]	Menu Level ▶
▶ CPU & PCI Bus Control	[Press Enter]	
Memory Hole	[Disabled]	
System BIOS Cacheable	[Enabled]	
Video RAM Cacheable	[Enabled]	
VGA Share Memory Size	[32M]	
Select Display Device	[CRT+LCD]	
Panel Type	[18 Bits 1024x768]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

DRAM CLOCK/DRIVE CONTROL:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – AwardBIOS CMOS Setup Utility DRAM Clock/Drive Control

Current FSB Frequency	133 MHz	Item Help
Current DRAM Frequency	133 MHz	Menu Level ▶▶
DRAM Clock	[BySPD]	
DRAM Timing	[By SPD]	
X DRAM CAS Latency	2.5	
X Bank Interleave	Disabled	
X Precharge to Active (Trp)	3T	
X Active to Precharge (Tras)	6T	
X Active to CMD (Trcd)	3T	
DRAM Command Rate	[2T Command]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Descriptions on each item above are as follows:

1. Current FSB Frequency

This field displays the current front side bus frequency, if your computer contains a monitoring system.

2. Current DRAM Frequency

This field displays the current DRAM frequency, if your computer contains a monitoring system.

3. DRAM Clock

This item allows you to control the DRAM speed. The Choice: Host Clock, HCLK-33M.

4. DRAM Timing

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

5. DRAM CAS Latency

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

AGP & P2P Bridge Control:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – AwardBIOS CMOS Setup Utility		
AGP & P2P Bridge Control		
AGP Aperture Size	[64M]	Item Help
AGP Fast Write	[Disabled]	Menu Level ▶▶
AGP Master 1 WS Write	[Disabled]	
AGP Master 1 WS Read	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Table 2 – AGP & P2P Bridge Control sub menu

Descriptions on each item above are as follows:

1. AGP Aperture Size

Select the size of Accelerated Graphics Port (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. The Choice: 4M, 8M, 16M, 32M, 65M, 128M, 256M.

2. AGP Master 1 WS Write

When *Enabled*, writes to the AGP(Accelerated Graphics Port) are executed with one wait states.The choice: Enabled, Disabled

3. AGP Master 1 WS Read

When *Enabled*, read to the AGP (Accelerated Graphics Port) are executed with one wait states. The choice: Enabled, Disabled

CPU & PCI BUS CONTROL:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – AwardBIOS CMOS Setup Utility		
CPU & PCI Bus Control		
CPU to PCI Write Buffer	[Enabled]	Item Help
PCI Master 0 WS Write	[Enabled]	Menu Level ▶▶
PCI Delay Transaction	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Table 3 – CPU & PCI Bus Control sub menu

Descriptions on each item above are as follows:

1. CPU to PCI Write Buffer

When Enabled, the CPU can write up to four dwords of data to the PCI write buffer before the CPU must wait for the PCI bus cycles to finish. When Disabled, the CPU must wait after each write cycle until the PCI bus signals that it is ready to receive more data.

2. PCI Master 0 WS Write

When Enabled, writes to the PCI bus are executed with zero wait states.

3. PCI Delay Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

MEMORY HOLE:

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

SYSTEM BIOS CACHEABLE:

This item allows you to enable caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

VIDEO RAM CACHEABLE:

Select Enabled allows caching of the video RAM , resulting in better system performance. However, if any program writes to this memory area, a system error may result.

5-11-2-4. Integrated Peripherals

<Screen shows all default setting >

Phoenix – AwardBIOS CMOS Setup Utility Integrated Peripherals

▶ VIA On-Chip IDE Device	[Press Enter]	Item Help
▶ VIA On-Chip PCI Device	[Press Enter]	Menu Level ▶
▶ SuperIO Device	[Press Enter]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

VIA ON-CHIP IDE DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – AwardBIOS CMOS Setup Utility
VIA On-Chip IDE Device

OnChip IDE Channel 0	[Enabled]	Item Help
OnChip IDE Channel 1	[Enabled]	Menu Level ▶▶
Primary Master PIO	[Auto]	
Primary Slave PIO	[Auto]	
Secondary Master PIO	[Auto]	
Secondary Slave PIO	[Auto]	
Primary Master UDMA	[Auto]	
Primary Slave UDMA	[Auto]	
Secondary Master UDMA	[Auto]	
Secondary Slave UDMA	[Auto]	
IDE HDD Block Mode	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Descriptions on each item above are as follows:

1. OnChip IDE Channel 0

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the primary IDE interface. Select Disabled to deactivate this interface

2. OnChip IDE Channel 1

The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary IDE interface. Select Disabled to deactivate this interface

3. Primary/Secondary Master/Slave PIO

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

4. Primary/Secondary Master/Slave UDMA

Ultra DMA/66 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 98 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/66, select Auto to enable BIOS support.

5. IDE HDD Block Mode

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

VIA ON-CHIP PCI DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – AwardBIOS CMOS Setup Utility VIA On-Chip PCI Device

USB 2.0 Support	[Enabled]	Item Help
VIA AC97 Audio	[Auto]	
VIA OnChip LAN	[Enabled]	Menu Level ▶▶
OnChip USB Controller	[All Enabled]	
USB Keyboard Support	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Descriptions on each item above are as follows:

1. VIA AC97 Audio

This item allows you to enable or disable to support AC97 Audio.

2. OnChip USB Controller

Select enabled if the system contains a Universal Serial Bus (USB) controller and you have a USB peripherals.

3. USB Keyboard Support

Select enabled if the system contains a Universal Serial Bus (USB) controller and you have a USB Keyboard.

SUPER IO DEVICE:

The options for these items are found in its sub menu. By pressing the <ENTER> key, you are prompt to enter the sub menu of the detailed options as shown below:

Phoenix – Award CMOS Setup Utility SuperIO Device

Onboard Serial Port 1	[3F8/IRQ4]	Item Help
Onboard Serial Port 2	[2F8/IRQ3]	Menu Level ▶
Onboard Serial Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ10]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ11]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[SPP]	
X EPP Mode Select	EPP1.7	
X ECP Mode Use DMA	3	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

Descriptions on each item above are as follows:

1. Onboard FDC Controller

Select Enabled if the system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled.

2. Onboard Serial Port 1/2/3/4

Select an address and corresponding interrupt for the first and second serial ports.

3. Onboard Parallel Port

This item allows you to determine access onboard parallel port controller with which I/O address.

4. Parallel Port Mode

Select an operating mode for the onboard parallel (printer) port. Select *Normal*, *Compatible*, or *SPP* unless you are certain your hardware and software both support one of the other available modes.

5. ECP Mode Use DMA

Select a DMA channel for the parallel port for use during ECP mode.

5-11-2-5. Power Management Setup

< Screen shows all default setting >

Phoenix – Award CMOS Setup Utility		
Power Management Setup		
ACPI Function	[Enabled]	Item Help
Power Management Option	[User Define]	Menu Level ▶
Suspend Mode	[Disabled]	
Video Off Option	[Suspend -> Off]	
Video Off Method	[V/H SYNC+Blank]	
MODEM Use IRQ	[3]	
Soft-Off by PWR-BTTN	[Delay 4 Sec]	
Ac Loss Auto Restart	[Off]	
▶IRQ/Event Activity Detect	[Press Enter]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

ACPI FUNCTION:

Users are allowed to enable or disable the Advanced Configuration and Power Management (ACPI).

POWER MANAGEMENT:

This item allows the user to select the type or degree of power saving and is directly related to HDD Power Down, Doze Mode and Suspend Mode.

There are four available options: Disable, Min. Power Saving, Max. Power Saving, and User Define.

SUSPEND MODE:

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

VIDEO OFF OPTION:

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend --> Off	Monitor blanked when the systems enters the Suspend mode.
Susp,Stby --> Off	Monitor blanked when the system enters either Suspend or Standby modes.
All Modes --> Off	Monitor blanked when the system enters any power saving mode.

VIDEO OFF METHOD:

This category determines the manner in which the monitor is blanked.

V/H SYNC+BLANK	This selection will cause the system to turn off the vertical & horizontal synchronization ports and writes blanks to video buffer.
BLANK SCREEN	This selection only writes blanks to video buffer.
DPMS	Initial display power management signaling.

MODEM USE IRQ:

This item enable you to name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

SOFT-OFF BY PWRBTN:

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung". The choices are Delay 4 Sec and Instant-Off.

5-11-2-6. PNP/PCI Configuration

< Screen shows all default setting >

Phoenix – Award CMOS Setup Utility PnP/PCI Configurations

PNP OS Installed	[No]	Item Help Menu Level ► Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
Reset Configuration Data	Disabled	
Resources Controlled By	[Auto(ESCD)]	
X IRQ Resources	Press Enter	
X DMA Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
Assign IRQ For VGA	[Enabled]	
Assign IRQ For USB	[Enabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

PNP OS INSTALLED:

This item allows you to determine install PnP OS or not.

RESET CONFIGURATION DATA:

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system configuration has caused such a serious conflict that the operating system cannot boot.

RESOURCE CONTROLLED BY:

The Award Plug and Play Bios can automatically configure all of the booth and Plug and Play-compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95. By choosing “manual”, you are allowed to configure the *IRQ Resources*, *DMA Resources* and *Memory Resources*. The choices are Auto (ESCD) and Manual.

IRQ RESOURCES:

You may assign each system interrupt a type, depending on the type of device using the interrupt.

DMA RESOURCES:

You may assign each system DMA a type, depending on the type of device using the DM Channel.

PCI/VGA PALETTE SNOOP:

Leave this field at disabled.

ASSIGN IRQ FOR VGA:

This item Enable/Disable to assign IRQ for VGA.

ASSIGN IRQ FOR USB:

This item Enable/Disable to assign IRQ for USB.

5-11-2-7. PC Health Status

< Screen shows all default setting >

Phoenix – Award CMOS Setup Utility

PC Health Status

CPU Warning Temperature	[Disabled]	Item Help
CPU Temperature	53°C/127°F	Menu Level ▶
CPU Fan Speed	4821 RPM	
SYS Fan speed	7780RPM	
Vcore	1.36V	
+3.3V	3.29V	
+ 5 V	4.81V	
+12V	12.16V	
VBAT(V)	3.04V	
5VSB(V)	5.02V	
Shutdown Temperature	[Disabled]	
↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

CPU WARNING TEMPERATURE:

This item will prevent CPU from overheating.

CPU TEMPERATURE:

This item shows you the current CPU temperature.

CPU/SYS FAN SPEED:

Show you the current CPU/System FAN speed.

VCORE:

This item shows you the current system voltage.

+3.3V/+5V/+12V:

This item shows you the voltage of +3.3V/+5V/+12V.

SHUTDOWN TEMPERATURE:

This item allows you to set the CPU shutdown Temperature. This function is only effective under Window 98 ACPI mode.

5-11-2-8. Frequency/Voltage Control

< Screen shows all default setting >

Phoenix – Award CMOS Setup Utility

Frequency/Voltage Control

Auto Detect DIMM/PCI Clk	[Enabled]	Item Help Menu Level ▶ This item is for VIA C3 CPU Ratio adjustment.
Spread Spectrum	[Enabled]	
CPU Clock	100	
Intel CPU Ratio	Default	

↑↓→←:Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help
F5: Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

AUTO DETECT DIMM/PCI CLK:

This item allows you to enable or disable auto detect DIMM/PCI Clock.

SPREAD SPECTRUM:

This item allows you to enable or disable the spread spectrum modulate.

CPU CLOCK RATIO:

This CPU clock ratio will be auto detected by system and can not be changed.

5-12. Touch Screen

The QT-8000 is equipped with a quick-response touch screen that enables keyboard-less operation. To use the touch screen, a related application program needs to be installed. This chapter provides all of the information to install and use the software of the Liyitec touch screen systems for Windows XP.

5-12-1. System Requirements

The Liyitec touch screen system requires a USB interface. USB5 is assigned for the touch screen system in the QT-8000 system.

5-12-2. Installation

This section describes the installation procedure for the Windows Driver Disk.

There are two steps to install the touch screen drivers into the QT-8000 system.

Step 1: Driver installation

Step 2: Calibration

5-12-2-1. Driver installation

The accompanying Windows Driver Disk contains the following software:

- For Windows XP
 - 1) Run the “setup.exe” (Touch Panel Windows XP Driver disk) file.
 - 2) Select “next”.
 - 3) Click “**OK**” button.
 - 4) Port setting window should open. Default condition is as below.
 - Mice and other pointing device, USB Touch controller
 - In the case that you want to use the touch panel as it is, click “**OK**” button.
 - 5) Restart the system

5-13. Ethernet Introduction

5-13-1. Introduction

The QT-8000 is equipped with high performance Plug & Play Ethernet interface which is fully compliant with IEEE802.3 standard, and consisting of RJ-45 connector.

5-13-2. Network Driver Installation under Windows XP

This describes in detail the important steps when installing the VIA VT6103 network drivers under WinXP.

IMPORTANT: During WinXP installation, do not attempt to install your Sound Card & Network Adapter hardware outright; doing so will install the older version of the device drivers within the WinXP setup program.

After completing the WinXP installation, user must do the following action upon first-time entry into WinXP.

1. Launch the Control Panel window
 - Select the Start button at the bottom left corner of the screen then click on Settings.
 - Choose Control Panel from the left and the following window appears on your display.
2. Access the System Properties window
 - Double-click on System icon and then choose Device Manager from the menu.
 - A new window will pop-up with Other Device represented by a “?” mark. Click this “?” mark and one device marked with “?” appears on this subset device list. One device specifies the VIA Rhine II Fast Ethernet Adapter.
3. Enter the VIA Rhine II Fast Ethernet Adapter
 - Move the cursor to the VIA Rhine II Fast Ethernet Adapter then double-click your left mouse button. The screen then display the VIA Rhine II Fast Ethernet Adapter.
4. Detect and specify the .INF network device driver path
 - Click on Driver from the menu bar and a new screen appears with the Update Driverbutton.
 - Click on the this Update Driverbutton and the Update Device Driver Wizard window appears. Choose “Display a list of all drivers...” then click on the Next> button to proceed.
 - Insert the driver disk into USB CD-ROM and click on Have Disk.

5. Capping the installation

- Enter the appropriate drive for your disk media, and click on OK.
- Click on OK then select Device dialog box.
- The Update Wizard display the message that it has found the driver. Click on Next>.
- Click on the Finish button to complete the installation of the VIA Rhine II Fast Ethernet Adapter.

6. Provide Network Information

- Right after completing the network adapter installation, the system displays the network window requiring you to fill up your computer's name, the workgroup it will appear in, and a short description of it. Refer to the following screen.
- After filling up the items, press the Close button to exit.

7. Reboot the system

- Your system will now ask you whether you'd like to reset the computer. Click on the Yes button.

Note: We highly recommend that you reset the system in order for the new network driver to take effect.

6. DIAGNOSTIC OPERATION

6-1. Inspection of a LAN

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestLANsv.exe, TestLAN.exe

Perform the inspection of a LAN port.

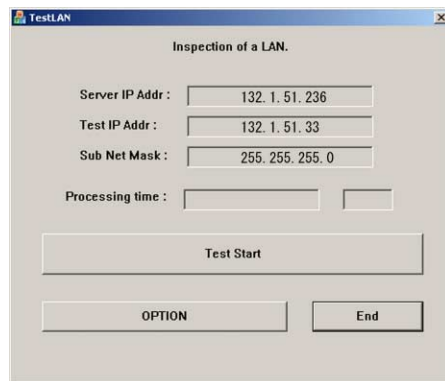
IP address setting is automatically performed when this inspection is booted.

Start the inspection as the TestStart button becomes effective upon completion of the IP address setting.

If the LAN port is normal, "OK" appears. If not, "NG" appears.

The duration of the inspection also appears. (Check the performance of 100Base-T.)

Note: Install the inspection program on the counter machine separately as "TestLANsv.exe."



6-2. Inspection of USB

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestUSB.exe

Connect the inspection USB-FDD and the USB storage to the (four) USB ports respectively in advance.

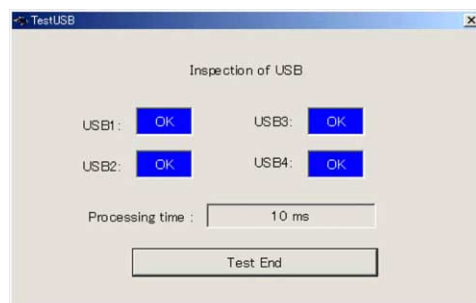
Before inspection, the below pop-up appears asking if the storage device has been connected.



If "OK" is clicked, the inspection starts.

After each USB port inspection, "OK" appears if the result is OK, and "NG" appears if not.

The duration of the inspection also appears. (Check the performance of USB2.0.)



6-3. Inspection of COM (RS232C)

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

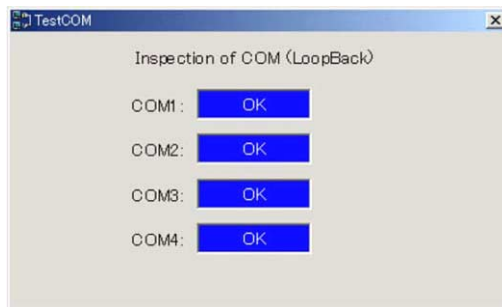
Diagnostic Program: TestCOM.exe

Connect the inspection loop back devices to the (four) COM ports respectively in advance.
Check that the LEDs of the inspection devices are not lit after they are connected.
Before inspection, the below pop-up appears asking if a loop back connector has been prepared.



If "OK" is clicked, the inspection starts.

After each COM port inspection, "OK" appears if the result is OK, and "NG" appears if not.



6-4. LCD inspection

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestLCD.exe

Check the following items with eyes: luminescent spot, lacking spot, RGB, black and white
Pressing the "Return" key, left-clicking of the mouse or touching the touch panel changes colors in the following sequence: Red → Green → Blue → Black → White



Right-click the mouse or press "ESC" key to leave this mode.



The above pop-up appears after the inspection. Input the result by clicking the mouse or touching the touch panel.

6-5. Inspection of the touch panel

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestTP.exe

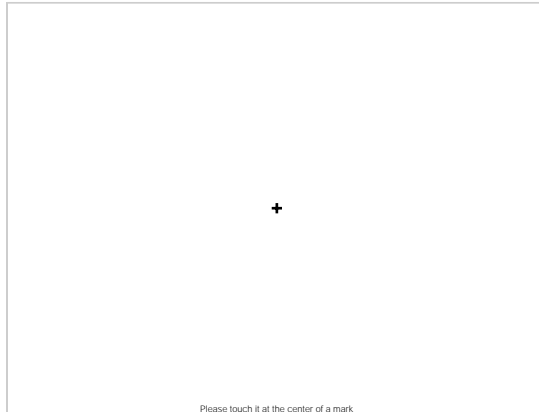
Perform the touch panel inspection.

Touch the center of the five marks which appear in the screen without fail.

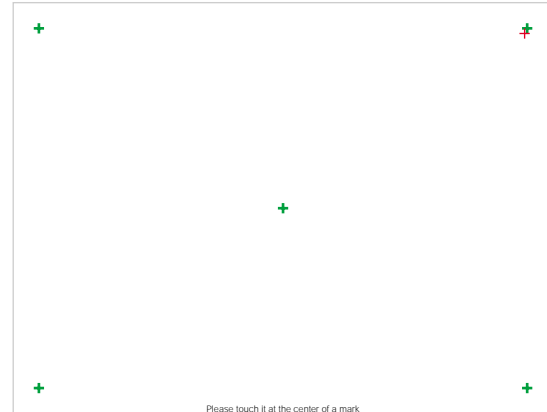
After the first mark (in the initial screen) is inputted, five green marks appear (as shown in the touched screen). A mark which should be inputted next turns black. If correctly inputted, a mark turns blue. If not, a mark turns red.

Note: Make sure to touch the center of the marks.

Initial screen



Touched screen



6-6. Inspection of HDD

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestHDD.exe

After HDD inspection, "OK" appears if the result is OK, and "NG" appears if not.

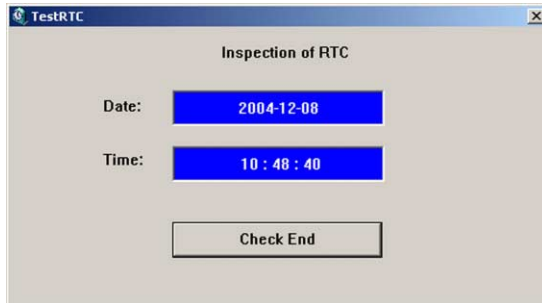


6-7. Inspection of RTC

- * Make sure that the OS (Windows XP, 2000) is installed on the computer before performing the diagnostic program.
- * Download the diagnostic program from the latest service CD.

Diagnostic Program: TestHDD.exe

Perform the RTC (time-keeping function) inspection.
Check that the "Time" in the RTC functions normally.



The above pop-up appears after the inspection. Input the result by clicking the mouse or touching the touch panel.

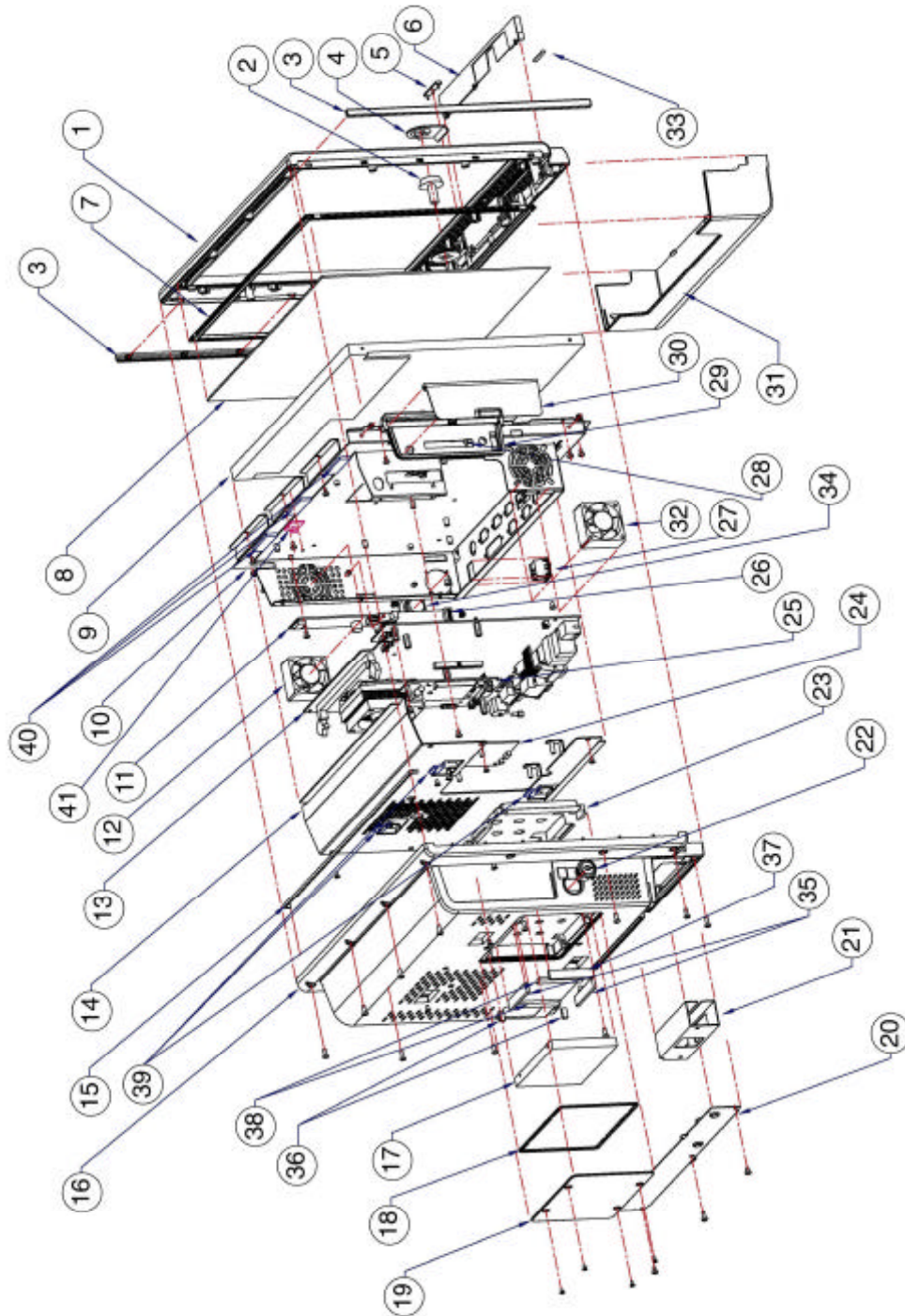


7. CIRCUIT EXPLANATIONS

7-1. Explanations of each block

System Major Parts

Refer to the following diagram to identify the major parts that make up the QT-8000.

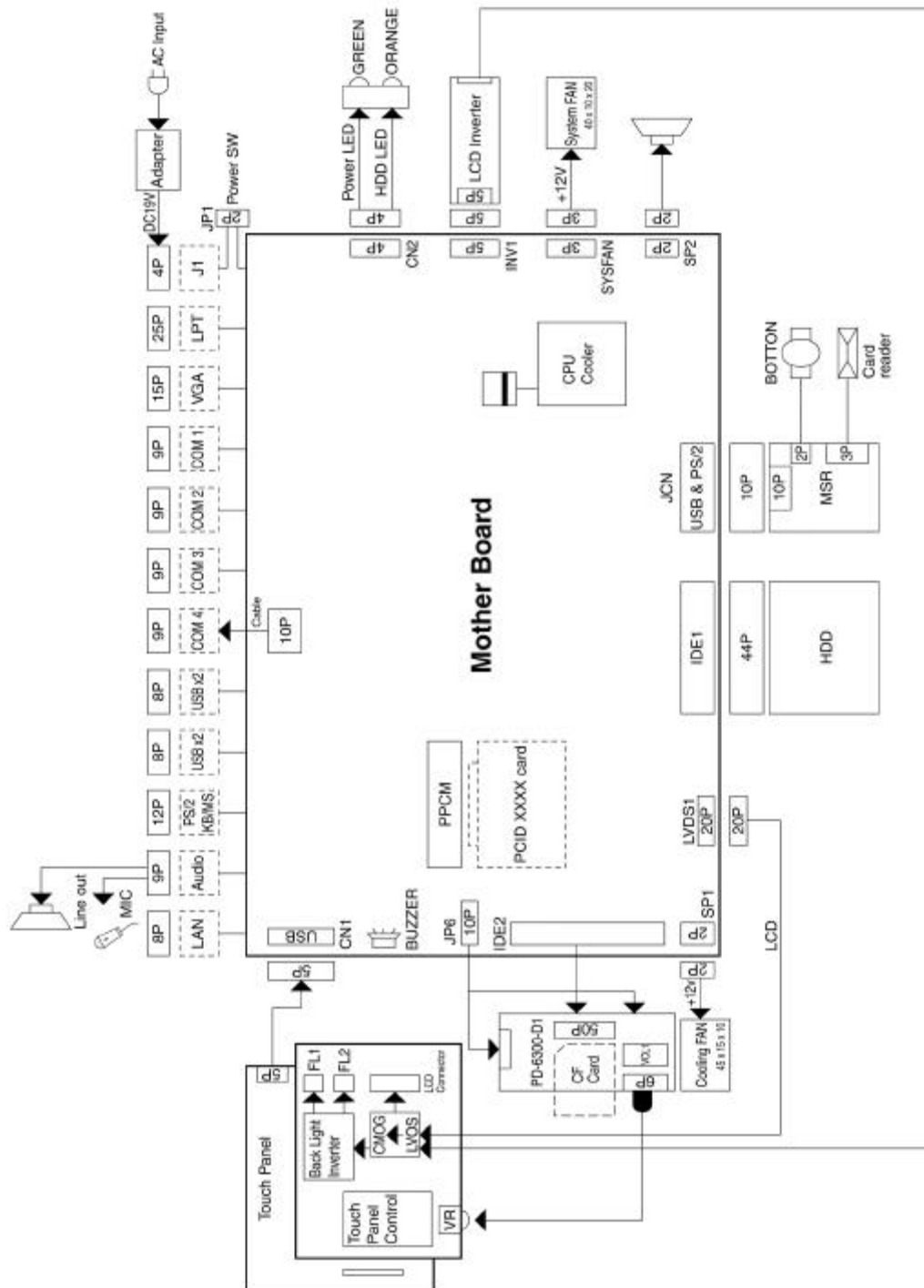


	Name	Part No.	Description
1	FRONT PANEL	30-002-12830001	Plastic front panel
2	IBUTTON	EC-94-J-03-01	Magnetic probe
3	PANEL_DECORATION	30-052-06130001	Side panel decoration
4	IBUTTON_COVER	30-002-12330001	Cover of magnetic probe
5	LENS	30-021-02130001	Plastic lens
6	MSR_RUBBER	30-13010206300	Dust resist
7	PANEL_RUBBER	30-13010106300	Panel rubber
8	TOUCH PANEL	ETTR5-150F-12N	5-wire resistive type via USB interface
9	LCD PANEL	ELCD-M150XN07	15" TFT LCD Display
10	LCD HOLDER_CHASSIS_B	32-015-00010001	LCD holder with bottom chassis
11	INVERTER_BOARD	EINVERTOR_QF133V1.15A	DC to AC inverter board
12	FAN	HF-40-40-20-1	40 x 40 x 20 system fan
13	MAIN_BOARD	PD6300-G1A	Mother board
14	CHASSIS_T	20-015-03300001	Upper metal chassis
15	PACKING	30-055-15130001	Water resist cover
16	BACK_COVER	30-002-12930001	Plastic Back cover
17	HDD	EHD20000-2.5-T	2.5 inch hard disk drive with 20Gbytes formatted
18	PRONE	30-013-15530001	Water resist for HDD
19	HDD_COVER	20-004-06107001	HDD metal cover
20	CARD_READER_COVER	20-004-03107001	Card reader cover
21	MSR.		<ul style="list-style-type: none"> • ISO Track 1&2 (Panasonic ZU-M1242S4) • ISO Track 2 and JIS II (Panasonic ZU-M1272S4)
22	CAMLOCK	20-025-15101001	Side lock
23	SHIELD_COVER	20-004-09100001	Shield cover
24	MSR_BOARD	PDAC6300-D2	MSR daughter board
25	CF_BOARD	PDAC6300-D1-G1A	CF daughter board
26	TOUCH_BOARD	ETCURTC-1000	Touch Panel Control board
27	POWER_SW	27-019-05002071	Main Power switch
28	POWER_BUTTON	30-046-12130001	Power button
29	CF_BASE	30-027-12130001	Base of CF
30	CF_COVER	30-002-12230001	Cover of CF socket
31	CABLE_COVER	30-002-12130001	Back cover of cable

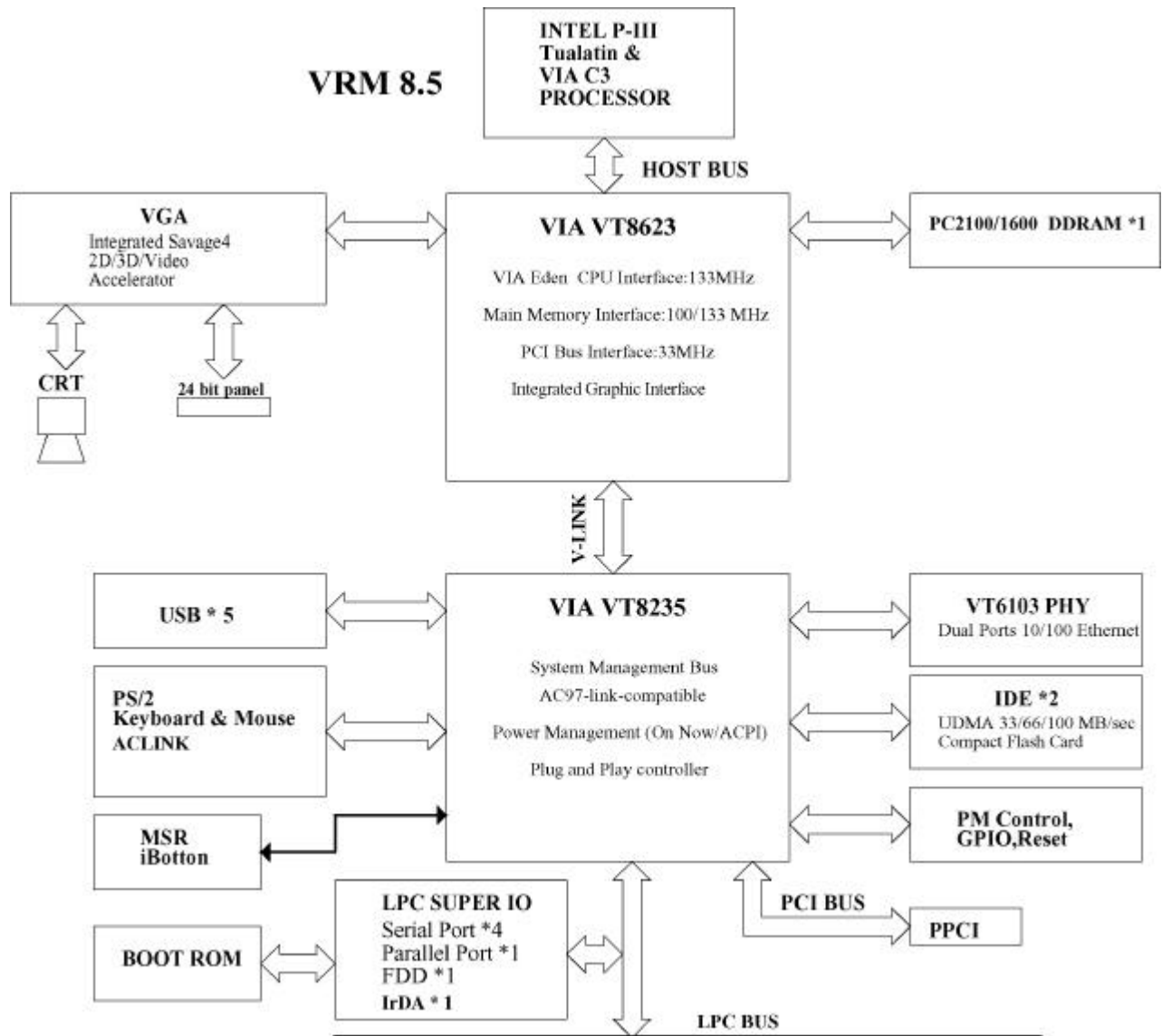
32	FAN	HF-45-45-10-1	45 x 45 x 10 system fan
33	LOGO	20-030-01107001	CASIO Logo
34	SPEAKER	KS-6300	2W internal speaker
35	HDD CUSHION (A)	30-013-15130001	Side HDD cushion
36	HDD CUSHION (B)	30-013-15230001	Side HDD cushion
37	HDD CUSHION (C)	30-013-15330001	Side HDD cushion
38	HDD CUSHION (D)	30-013-15430001	Side HDD cushion
39	SPRING (EMI)	20-009-14107001	EMI shielding finger
40	SHIELDING GASKET	30-050-23130001	EMI anti-vibration shielding gasket
41	PCB-SPACK-SUPPORT	30-041-04130001	Gap cushion for PCB

7-2. Block diagram

(1) System Connection Diagram



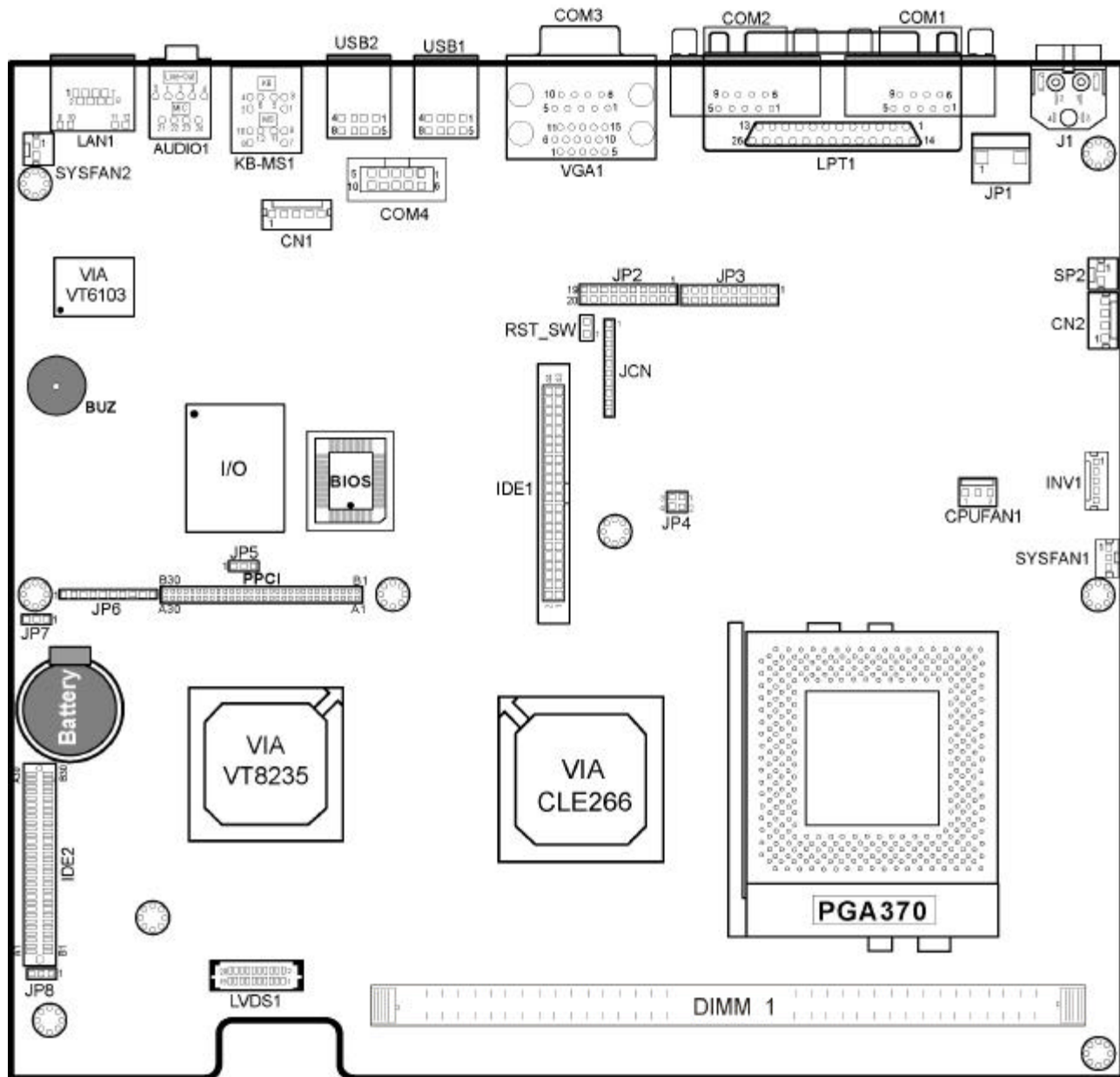
(2) System block diagram



7-3 Jumper Setting

The default setting of the motherboard for QT-8000 is as follow:

EX964 Overview and Jumper switch

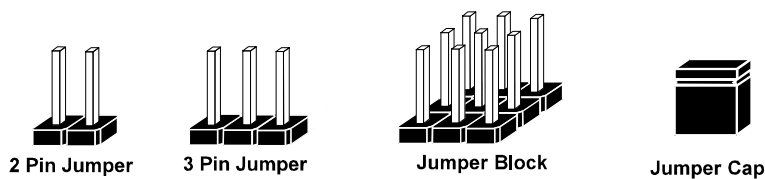


7-3-1 Jumper Settings

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "opening" or "closing" pins.

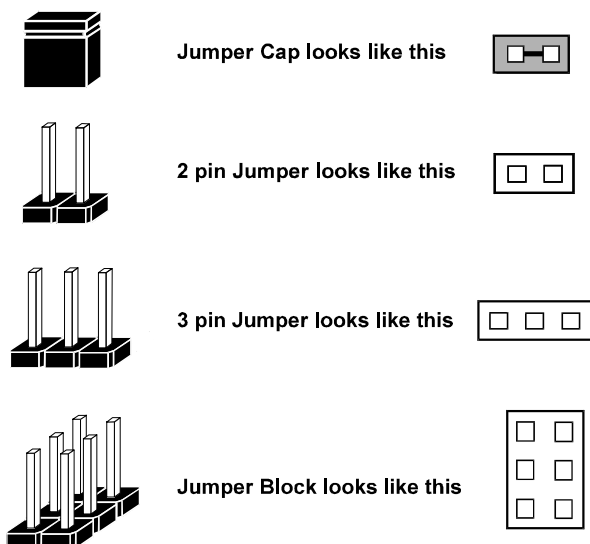
The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

JUMPERS AND CAPS




If a jumper has three pins for example, labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.


JUMPER DIAGRAMS

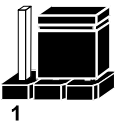


JUMPER SETTINGS

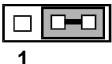


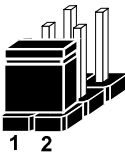
2 pin Jumper closed(enabled)
looks like this



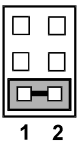


3 pin Jumper
2-3 pin closed(enabled)
looks like this







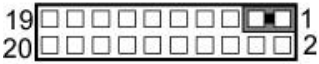
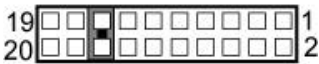
Jumper Block
1-2 pin closed(enabled)
looks like this











7-3-2 COM PORT RI & VOLTAGE SELECTION

JP2 : COM1(PIN9), COM2(PIN9), COM3(PIN9), and COM4(PIN9), RI and 5V/12V Voltage Selection

The selections are as follows:

SELECTION		JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
COM1	RI	13-14	 JP2
	5V	3-5	 JP2
	12V	1-3	 JP2
COM2	RI	15-16	 JP2

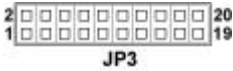
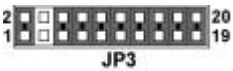
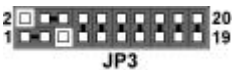
	5V	4-6	 <p>JP2</p>
	12V	2-4	 <p>JP2</p>
COM3	RI	17-18	 <p>JP2</p>
	5V	7-9	 <p>JP2</p>
	12V	9-11	 <p>JP2</p>
COM4	RI	19-20	 <p>JP2</p>
	5V	8-10	 <p>JP2</p>
	12V	10-12	 <p>JP2</p>

7-3-3 RS232/422/485 (COM2) SELECTION

JP3 : RS-232/422/485 (COM2) Selection

COM2 is selectable for RS-232, 422, 485 function.

The jumper settings are as follows :




COM 2 FUNCTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
RS-232	Open	
RS-422	1-2, 5-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	
RS-485	1-3, 4-6, 7-8, 9-10 11-12, 13-14, 15-16 17-18, 19-20	

*** Manufactory default --- RS-232.

7-3-4 CPU SPEED SELECTION

JP4 : CPU Speed Selection

The jumper settings are as follows :



CPU SPEED	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
66 MHz	1-2, 3-4	
100 MHz	3-4 (default)	
133 MHz	open	

Default 100 MHz

7-3-5 LCD PANEL VOLTAGE SELECTION

JP8: LCD Panel Voltage Selection

The selections are as follows :

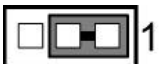
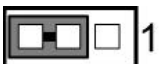
SELECTION	JUMPER SETTING (Pin Closed)	JUMPER ILLUSTRATION
3.3V	2-3 (default)	 JP8
5V	1-2	 JP8

Default 3.3V

7-3-6 EPPCI IRQ SELECTION

JP5: EPPCI IRQ Selection

The selections are as follows:

SELECTION	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
PCI_IRQB	1-2 (default)	 JP5
PCI_SERIRQ	2-3	 JP5

Default PCI_IRQB

7-3-7 JCN setting

For Manufactory default

1) USA model without MSR board(PDAC6300-D2):

Pin 1-2 short and pin 3-4 short so that PS/2 Keyboard and Mouse can work well.

2) Other countries model with MSR board(PDAC6300-D2):

MSR board(PDAC6300-D2) is connected to JCN by cable.

8. TROUBLESHOOTING

This portion of the service manual lists all possible malfunctions that may occur when operating the POS PC system. To assist you in fully analyzing the problem, the following table also includes an up-to-date list of symptoms and probable cause(s). In case you encounter problems or discover causes not included in this section, we highly recommend you to consult CASIO engineers.

Symptoms	Probable Causes
The power LED indicator on the front panel does not light up	<ul style="list-style-type: none">- Loose power cable connection at the bottom of the front panel<ul style="list-style-type: none">■ Turn OFF system then disconnects the power cord. Insert the power cord back into the inlet connector then turn ON the system Power.- The connection of female jacks to the power supply inlet connector is loose.<ul style="list-style-type: none">■ Remove the back cover of the system and check each connection to the power supply inlet connector.- Power supply unit is out-of-order<ul style="list-style-type: none">■ Replace the power supply unit.
LCD Backlight is not bright enough.	<ul style="list-style-type: none">- Adjust the backlight controller on the left hand side of the panel, and rotate clockwise to the brightness.
Abnormal VGA screen display	<ul style="list-style-type: none">- Monitor cable is not properly installed to connector VGA of the system.- Please check the VGA port connection.<ul style="list-style-type: none">■ Pull out the VGA cable from the system, then replace it back.- Defective CPU card<ul style="list-style-type: none">■ Replace the CPU card of the System.

Abnormal LCD screen display	<ul style="list-style-type: none"> - The brightness control is not properly adjusted. <ul style="list-style-type: none"> ■ Adjust the brightness control to a satisfactory level. - Inverted connection (from LCD converter board to CPU card) of the 44-pin LCD converter cable <ul style="list-style-type: none"> ■ Adjust and install the LCD converter cable properly. - Loose connection between the LCD converter board and the LCD panel <ul style="list-style-type: none"> ■ Pull out the LCD converter board from the LCD panel then re-install it back. <p>If symptoms still persist at this stage, replace the LCD converter board and/or the LCD converter cable</p> <ul style="list-style-type: none"> - Defective LCD panel and/or inverter <ul style="list-style-type: none"> ■ Replace the LCD panel and/or inverter - Defective CPU card <ul style="list-style-type: none"> ■ Replace the CPU card of the system. - Incorrect BIOS version <ul style="list-style-type: none"> ■ Upgrade the BIOS version. Consult CASIO engineers for the latest version.
COM Port is not functioning	<ul style="list-style-type: none"> - Please check the COM port connection <ul style="list-style-type: none"> ■ Pull out the COM port cable from the system, then replace it back. - Defective CPU card <ul style="list-style-type: none"> ■ Replace the CPU card of the System
Network function is not working	<ul style="list-style-type: none"> - Improper connection of the network cable <ul style="list-style-type: none"> ■ Check the RJ-45 connector installed on the NET port of the system. - Please check the RJ-45 connector. <ul style="list-style-type: none"> ■ Pull out the RJ-45 connector from the system, then replace it back. - Defective CPU card <ul style="list-style-type: none"> ■ Replace the CPU card of the System.

Printer port is not working	<ul style="list-style-type: none"> - Please check the printer port connection. ■ Pull out the printer port cable from the system, then replace it back. - Defective CPU card ■ Replace the CPU card of the System.
Keyboard/Mouse are not functioning	<ul style="list-style-type: none"> - Please check the keyboard/mouse connection. ■ Pull out the keyboard/mouse cable from the system, then replace it back. - Defective CPU card ■ Replace the CPU card of the System.
HDD is not working	<ul style="list-style-type: none"> - Inverted connection (from HDD to CPU card) of the 44-pin HDD cable ■ Adjust and install the HDD cable properly. - Defective hard drive ■ Replace the hard disk drive of the system. - Defective CPU card ■ Replace the CPU card of the System
Touchscreen feature is not functioning properly	<ul style="list-style-type: none"> - Improper connection (from J1 of touchscreen control board to CN1 of the system) of the 7-pin touchscreen control cable ■ Adjust and install the touchscreen control cable property. - Loose touch connection on J3 of the touchscreen control board. ■ Pull out the touch cable on J3 then re-install it back. If symptoms persist, consult CASIO engineers. - Defective touchscreen control board ■ Replace the touchscreen control board of the system.
CF Card is not working	<ul style="list-style-type: none"> - Please check the CF card locates on the CF slot correctly. - Make sure the CF card is plug into the bottom. - Please check the CF card is the qualified product.
Card Reader / IButton is not working	<ul style="list-style-type: none"> - Please check the Card's magnetic and the speed of swiping. - Please check the magnetic of Touch Key, and does it connect to the I-Button signal side at right position? - Please check the Card and Touch Key are qualified products.
Audio is not working	<ul style="list-style-type: none"> - Please check the Audio connection. ■ Pull out the Audio cable from the system, and then replace it back.

9. DATA SHEET

9-1. Power Supply

- (1) 120 Watt AC Adapter which can support UPS with rectangular waveform output
- (2) AC Input:
 - a. Rated input voltage: 100V/ 240V
 - b. Input voltage range: 90 VAC ~ 264 VAC
 - c. Input frequency range: 47 Hz ~ 63 Hz
- (3) Output:
 - a. Output rated voltage: 19V DC
 - b. Output current: 6.32 A
- (4) Mechanical characteristic
 - a. Dimension (length x width x height): 167 mm x 65 mm x 37 mm
 - b. Input AC socket type: IEC 320 C6 type
 - c. Input AC cable length: L = 1.8m
 - d. Output DC cable length: 14 # AWG, L= 1.8 m
 - e. Color: Black
 - f. Weight: 790 g (including power cord)

10. PARTS LIST

MODEL: QT-8000 (EX-964)

EXPLODED VIEW (QT-8000)	68
PARTS LIST (QT-8000)	69
DRAWER (DL-3401)	70

NOTES :

1. Price and specifications are subject to change without prior notice.
2. As for spare parts order and supply, refer to the "GUIDEBOOK for Spare Parts Supply", published separately.
3. The numbers in item column correspond to the same numbers in drawing.
4. CASIO does not supply the spare parts without parts code.
5. Remarks

Q'ty : Quantity used per unit

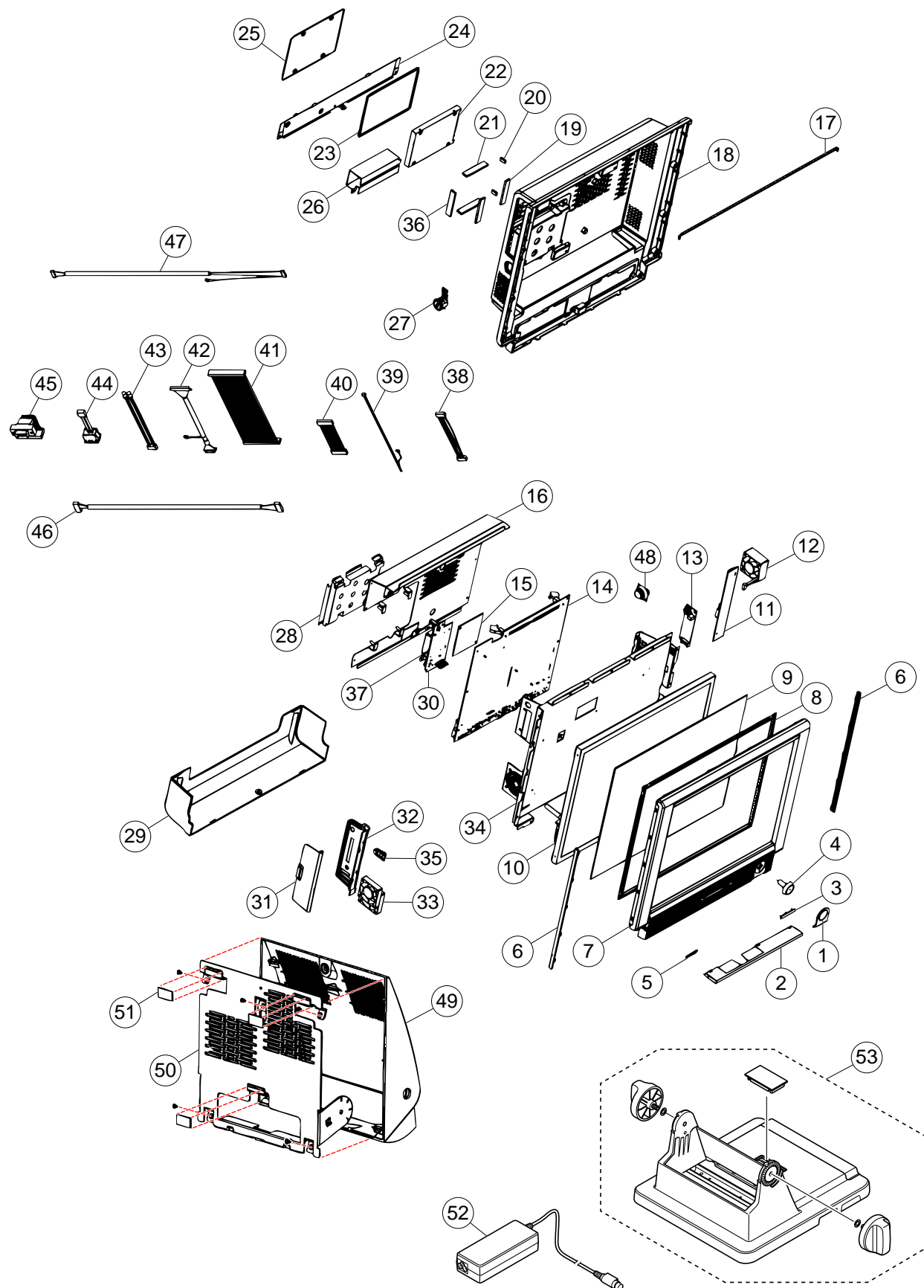
RANK: A = Essential

B = Stock recommended

C = Less recommended

X = No stock recommended

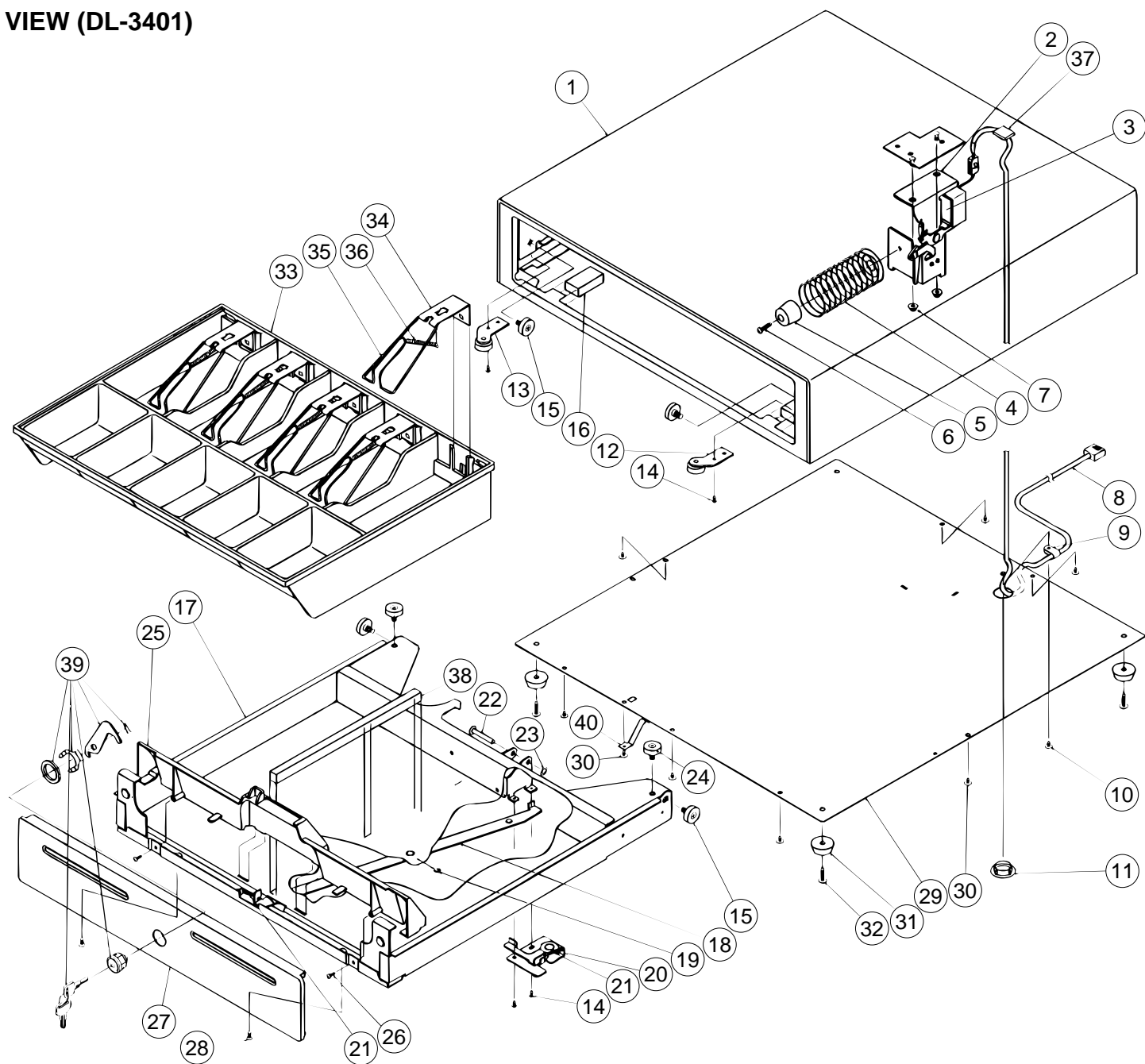
EXPLODED VIEW (QT-8000)



PARTS PRICE LIST(QT-8000)

N	Item	Code No.	Parts Name	Specification	Q'ty		Price Code	Rank
					USA	Other Countries		
N	1	1019 1034	IBUTTON COVER	30-002-12330001	1		AH	C
N	2	1019 1039	MSR_RUBBER	30-013-01230001	1	1	AS	C
N	3	1019 1036	LENS	30-021-02130001	1	1	AI	C
N	4	1016 6384	MAGNET PROBE	94-J-04		1	DC	C
N	5	1019 1700	CASIO LOGO	20-030-01107001	1	1	AI	C
N	6	1019 1040	PANEL_DECORATION	30-052-06130001	1	1	AR	C
N	7	1019 1031	FRONT PANEL	30-002-12830001	1	1	CN	C
N	8	1019 1044	PANEL_RUBBER	30-13010106300	1	1	BB	C
N	9	1019 1048	TOUCH PANEL	ETTR5-150F-12N	1	1	DW	A
N	10	1019 1035	LCD PANEL	ELCD-M150XN07	1	1	EX	A
N	11	1019 1121	INVERTER_BOARD	QF133V1.35	1	1	CN	A
N	12	1019 1028	FAN (40 x 40 x 20)	HF-40-40-20-1	1	1	BK	A
N	13	1019 1049	TOUCH_BOARD	ETCURTC-1000	1	1	CZ	A
N	14	1019 1037	MAIN_BOARD	PD6300-G1A	1	1	EQ	A
N		1019 1030	256MB DDR RAM	IDM256M-DDR/333	1	1	DT	A
N		1019 1119	Intel 1.2 G CPU	IU80524-1020-I.	1	1	DN	A
N		1019 1122	Heat Sink+Fan	HF-P3-SV01	1	1	CM	A
N	15	1019 1038	MSR_BOARD	PDAC6300-D2-G1A		1	DU	A
	16		CHASSIS_T		1	1		X
N	17	1019 1051	PACKING	30-055-15130001	1	1	AC	C
N	18	1019 1697	BACK_COVER	ECSP6300BACK-COVER	1	1	CH	C
N	19	1019 1052	HDD CUSHION (D)	30-013-15430001	2	2	AB	C
N	20	1019 1053	HDD CUSHION (B)	30-013-15230001	2	2	AB	C
N	21	1019 1050	HDD CUSHION (A)	30-013-15130001	2	2	AB	C
N	22	1019 1698	Slim HDD 30G	EHD30000-2.5-T-1	1	1	EF	A
N	23	1019 1042	PRONE	30-013-15530001	1	1	AD	C
N	24	1019 1023	CARD_READER_COVER	20-004-03107001	1	1	AO	C
N	25	1019 1699	HDD COVER	EC-6300-HDD-COVER	1	1	AZ	C
	CASIO sales options 26					1		X
	26		MSR(QT-6046MCR)					
N	27	1019 1022	CAMLOCK	20-025-15101001	1	1	AQ	C
	28		SHIELD_COVER		1	1		X
N	29	1019 1021	CABLE_COVER	30-002-12130001	1	1	BB	C
N	30	1019 1025	CF_BOARD	PDAC6300-D1-G1A	1	1	CP	C
N	31	1019 1026	CF_COVER	30-002-12230001	1	1	AT	C
	32		CF_BASE	30-027-12130001	1	1		X
N	33	1019 1029	FAN (45 x 45 x 10)	HF-45-45-10-1	1	1	BF	A
	34		L/H_CHASSIS_B		1	1		X
N	35	1019 1043	POWER_BUTTON	30-046-12130001	1	1	AH	B
N	36	1019 1057	HDD CUSHION (C)	30-013-15330001	1	1	AC	C
	37		CF_M_COVER		1	1		X
N	38	1019 1058	INVERTER_CABLE	27-015-33101071	1	1	AJ	C
N	39	1019 1056	IBUTTON_CABLE	27-022-06004071		1	AG	C
N	40	1019 1055	MSR-MAIN-CABLE	27-014-33108071		1	AR	C
N	41	1019 1054	HDD_CABLE	27-002-33103031	1	1	AT	C
N	42	1019 1059	TFT-PANEL-CABLE	27-020-66103121	1	1	BN	C
N	43	1019 1060	LED-CABLE	27-018-04004071	1	1	AN	C
N	44	1019 1041	POWER_SW	27-019-05002071	1	1	AO	B
N	45	1019 1061	D_SUB_SPIN_CABLE	27-017-05102031	1	1	AJ	C
N	46	1019 1062	USB-TOUCH-CABLE	27-020-34106151	1	1	AT	C
N	47	1019 1064	MSR-CABLE	27-014-66206171	1	1	AW	C
N	48	1019 1065	SPEAKER	KS-6300	1	1	AZ	C
N	49	1019 1045	ROTATE COVER	30-002-12430001	1	1	BM	C
N	50	1019 1046	ROTATE FIXTURE	20-030-03100001	1	1	BN	C
N	51	1019 1063	ROTATE-PAD	30-036-24130001	3	3	AC	C
N	52	1019 1019	AC ADAPTOR	ECP120W-AAB	1	1	DK	A
			AC CABLE		1			C
	53	1016 5805	STAND SUB ASSY	RJE501177*001V01	1	1	DU	C

EXPLODED VIEW (DL-3401)



PARTS LIST (DL-3401)

N	Item	Code No.	Parts Name	Specification	Qt'y	Price code	Rank
	1		CASE/MAIN	V012K00008	1		NOT SUPPLY
N	2	9487 0975	LOCK SUB ASSY	ZD52842	1		C
N	3	9487 0976	SOLENOID SUB ASSY	ZD53541	1		B
		1907 7942	SWITCH/MICRO	SS-01GL-ET	1		B
			SCREW	M2X14	2		NOT SUPPLY
			NUT	M2	2		NOT SUPPLY
			SCREW	M3X5	2		NOT SUPPLY
	4	1907 7123	SPRING/PUSH	ZD01370B	1		C
	5	1907 6277	RUBBER/DAMPER	K2320	1		X
	6		SCREW	M4X16	1		NOT SUPPLY
	7		SCREW	M4XP0.7	2		NOT SUPPLY
	8	1906 0674	CABLE ASSY	ZD53544	1		C
	9		NYLON CLAMP	NK-3N	1		NOT SUPPLY
	10		SCREW	M4X6	1		NOT SUPPLY
	11	1902 7112	GROMMET	B-1	1		X
N	12	9487 0965	SIDE ROLLER SUB ASSY/RH	ZD52817	1		B
N	13	9487 0966	SIDE ROLLER SUB ASSY/LH	ZD52818	1		B
	14		SCREW	M3X6	4		NOT SUPPLY
	15	5800 0043	ROLLER/DELRIN	DR-19B	4		B
	16		STOPPER RUBBER	ZD52831	2		NOT SUPPLY
	17		DRAWER SUB ASSY	ZD52820	1		NOT SUPPLY
N	18	9487 0967	LINK	ZD52864	1		C
	19	5430 0208	E-RING	3	1		C
N	20	9487 0968	UNLOCK UNIT	ZD52860	1		C
	21	1907 7930	SPRING/UNLOCK	ZD00254	2		C
	22	1906 4150	RIVET	5X30	1		C
	23	5580 1452	RING/CS	CSTW-5	1		C
N	24	9487 0969	ROLLER/DELRIN	DL-19B	2		B
N	25	9487 0970	COVER/UNLOCK	ZD52870	1		C
	26		SCREW	M3X8	2		NOT SUPPLY
	27		PANEL/FRONT	ZD53521	1		NOT SUPPLY
	28		SCREW	M3.5X8	2		NOT SUPPLY
	29		PLATE/BOTTOM	V094E00018	1		NOT SUPPLY
	30		SCREW	M3X5	8		NOT SUPPLY
N	31	9487 0971	RUBBER/PAD	K3215H	4		C
	32		SCREW	M4X16	4		NOT SUPPLY
N	33	9487 0972	CASE/BILL	V023E00003	1		C
N	34	9487 0973	BRACKET/BILL HOLDER	ZD52852	5		C
	35	1902 7084	BILL HOLDER	ZD02041	5		C
	36	9487 0797	SPRING/BILL HOLDER	ZD52853	5		C
	37		CLAMP	CKN-5	1		NOT SUPPLY
	38		SPACER	V112E00001	1		NOT SUPPLY
	39	9487 0974	LOCK CYLINDER SET	ZD52865	1		C
	40		EARTH/PLATE	V114E00003	1		NOT SUPPLY

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- Correction of model (cover, page 67)

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